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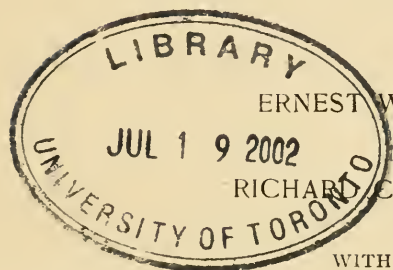
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ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

A MONTHLY REVIEW OF
Gynæcology, Obstetrics, Abdominal Surgery,
and the Diseases of Children.



EDITED BY
ERNEST W. CUSHING, M.D., BOSTON,
AND
RICHARD C. NORRIS, M.D., PHILADELPHIA.

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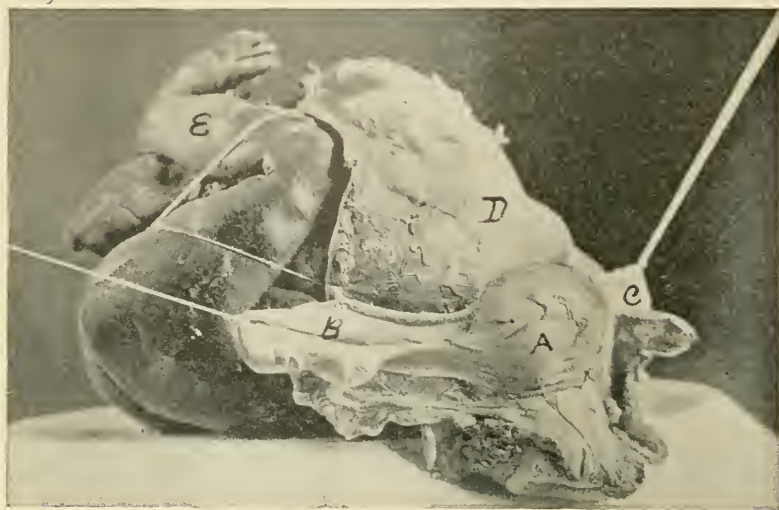
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PLATE I.

FIG. 1.

POSTERIOR VIEW FROM LEFT SIDE.



EXTRAUTERINE PREGNANCY.

- A, Posterior surface of uterus.
- B, Appendages on left side.
- C, Appendages on right side.

- D, Portion of gestation sac not removed.
- E, Fœtus replaced as nearly as possible in original position.

FIG. 2.



A to E, Same as Fig. 1.

F, Location at which gestation sac communicated with uterine cavity.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

VOL. V.

OCTOBER, 1891.

No. 1.

ORIGINAL COMMUNICATIONS.

A Remarkable Case of Utero-abdominal Pregnancy.

BY ANNA M. FULLERTON, M.D.,

Physician-in-charge, Woman's Hospital of Philadelphia.

[Plate I, Figs. 1 and 2.]

Mrs. E. O., the subject of this article, presented herself at the Woman's Hospital of Philadelphia, during the latter part of April, 1891. Her story, told briefly, is as follows: She was 42 years of age, married, and had three living children, aged respectively 9, 5, and 4 years. She had lost one child—her eldest—and had suffered from one miscarriage—her first pregnancy—about two months after marriage. She had been married eleven years. As a child, she had never been strong, suffering from repeated attacks of chorea. These had continued to recur at intervals throughout her subsequent history, particularly during her pregnancies. The establishment of the menses was marked by pain and profuse flow at the age of 14 years. Her convalescence from her miscarriage was without note; her labors

were described as severe, the pains being excessive; none, however, were instrumental, and they were all of comparatively short duration. There was no history of retained or adherent secundines. No marked abnormality of the pelvis existed.

The last menstrual period had occurred in March, 1890, since which time patient had considered herself pregnant. The following September she had a fall, and struck herself on the back of a chair upon which she had been standing, while adjusting some curtains. The night after this fall she suffered from severe paroxysmal pains and thought she was going to miscarry. There was no collapse. The pains soon subsided, and the patient suffered from no further untoward symptoms.

On the 7th of December, 1890, labor

pains apparently set in. She had a free discharge of watery fluid, apparently the amniotic liquid, which later was mixed with blood. These pains lasted almost continuously for two weeks. She was seen by three medical men during this time, who could not determine whether she was in labor or not. A complete cessation of the pains occurring, it was decided she was not in labor. The discharge of a bloody, and later a dark-brown, fluid persisted in variable quantity up to the time that the patient presented herself at the hospital for admission.

On admission, patient was extremely emaciated, weak and anæmic, suffered from frequent choreic movements, and wore a startled expression, as of one whose mental balance was affected. Her nervous manner and incoherent speech served to strengthen this impression.

Examination of the abdomen showed the presence of a tumor of uniform development and resistance, distending the entire lower part of the abdomen, and extending to a point about three fingers' breadth above the umbilicus. The mass was movable from side to side and appeared to lie markedly forward, so as to overhang the pubic symphysis. No irregularities, indicating the presence of foetal parts, could be appreciated.

The sensation on palpation was similar to that obtained by palpating a pregnant uterus. The resistance was rather greater. No contractions were excited by manipulation over the mass. On auscultation no foetal heart could be heard. Examination per vaginam enabled the tumor to be appreciated as lying in front of the uterus and very close to it; the uterine body was apparently drawn upward

and toward the right. The sound was carefully passed and this diagnosis confirmed. The uterus measured four inches. A dark-brown discharge was found to proceed from the uterine os, which had the peculiar stale odor of amniotic liquid.

Upon consultation with Dr. Anna E. Broomall, who saw her with me, it was decided to place the patient upon supporting treatment for a time, with a view to operative procedure when her general condition should be improved.

Delay being found rather to intensify the patient's condition of apprehension and, therefore, to be of doubtful good, it was decided, about two weeks later, to operate at once.

On the 18th of May, after the usual antiseptic precautions, I did abdominal section, aided by Dr. Anna E. Broomall.

An incision was made in the median line of the abdomen, about four inches in length, between pubic symphysis and umbilicus. The peritonæum was caught up and incised, disclosing the tumor, of a dark-grayish color, not unlike the sac of a dermoid cyst. The incision was then lengthened and the hand carried into the abdomen, sweeping around the tumor to discover its attachments.

The mass was adherent over its entire anterior surface to the abdominal parietes. These adhesions were carefully separated, and, although there was not much bleeding from any one point, there was considerable oozing from the surfaces separated. The tumor being found to have numerous posterior adhesions, the incision was again lengthened, and the tumor, about the size of a gravid uterus at eight months, turned out. Examination of its pos-

terior attachments showed exceedingly vascular and almost universal adhesions to the small intestines. It was thought unwise to sever these. It was decided then to explore the contents of the tumor. A small trocar and canula being carried in, no fluid was found to flow from it. The introduction and withdrawal of the trocar caused a small rent in the anterior wall of the tumor, showing the wall to be thin and exceedingly friable, apparently in a condition of mummification.

With one finger I increased the opening, the wall tearing like wet blotting-paper, and the thigh of a foetus at full term was thus disclosed to view.

The opening being increased in length, the foetus was seized by the thigh and extracted. A little delay was caused by the adhesions which the scalp had formed with the posterior portion of the sac.

The attitude of the foetus had been such as to form a compact rounded mass, without any irregularities, lying in the gestation sac in such a way that the cephalic extremity was directed toward the mother's spine, while the podalic lay over the symphysis pubis.

The small parts were directed to the mother's right. The cord was ligated, the child severed from the sac and removed. The placenta had been largely detached and drained of blood. Some pieces had been forced down to the lower portion of the sac (where subsequently an opening was found which communicated with the uterus). These pieces constituted nearly one-half the placenta, and were readily removed; the remainder was found to be adherent to the convolutions of the small intestine on the patient's right.

Because of the attachments being so numerous and so vascular, it was thought unwise to attempt further removal. As much of the sac as it was possible to remove was cut away. The opening of the sac was narrowed by turning in the cut edges through the greater part of their extent and bringing them together with fine silk by the symperitoneal suture. The mouth of the sac was then stitched to the lower part of the wound.

The interior of the sac was thoroughly cleansed with strong bichloride solution 1-1,000. Oozing surfaces on the interior surface of the sac were touched with liquor ferri subsulphatis. The cord was brought up through the opening, and a Kœberle glass drainage tube was introduced into the sac.

The abdominal cavity having been thoroughly irrigated with boiled, distilled water, at 110° Fahr., and several bleeding points ligated, the wound was closed with silkworm gut sutures. A glass drainage tube was introduced through the lower angle of the wound into Douglas' cul de sac. The abdomen was open about an hour and a quarter.

The patient reacted from ether within an hour, and talked intelligently about herself. Her temperature, when placed in bed, was normal—the pulse very rapid and feeble—140 beats per minute. Her pulse, on admission to the house, however, and since, had ranged from 108 to 110 beats per minute, and was small.

An occasional gasping breath, together with the weakness of the pulse, led to a decision to employ transfusion, and sixteen ounces of a saline solution were injected into the subcutaneous cellular tissue (beneath the clavicles and in the groins). The

respiration became natural, and the pulse grew stronger for a time. Hypodermatic injections of brandy, digitalis and strychnia were employed at frequent intervals. About fourteen hours after the operation the patient's temperature began to rise and steadily increased; the patient became wildly delirious and died twenty-four hours after the operation, the temperature at that time being 107° Fahr.

The lower tube (in Douglas' cul de sac) had been kept constantly drained. Drainage from the first had averaged but about two drachms and had almost ceased some hours before death. Death apparently occurred from acute septic meningitis.

The autopsy, made an hour after death, and which was confined to the abdomen and pelvis, confirmed the diagnosis of sepsis. There was evidence of some, though not extensive, bleeding from the points where adhesions to the parietal peritonæum had been broken up.

The low condition of the patient's vitality doubtless rendered it impossible for the peritonæum to resist the irritation induced by the retained portions of the gestation sac and the oozing surfaces. The cyst and pelvic viscera were dissected out, and are shown in the photographs.

The placenta was attached to the anterior surface of the small intestines. The membranes evidently constituted the entire sac, or, at least, were inseparable from any tissue which may have aided in the formation of the walls.

A communication, which readily admitted one finger, was found between the interior of the sac and the uterine cavity about an inch above the internal os, and to the right. The Fallopian tubes, ovaries and broad liga-

ments of both sides were intact, and had been forced, with the uterus, to the posterior portion of the pelvis.

A microscopical examination of a portion of the sac-wall showed the presence of a few muscular fibres and considerable cellular tissue; the existence of peritonæum, as an external covering, could not be demonstrated.

The child weighed 2267.96 grammes, or five pounds. Its length was 50 cm. Diameters of head:

O. F.	11 cm.
O. M.	13 cm.
B. P.	9½ cm.
B. T.	8 cm.

The diameter of the gestation sac was about 40 cm., or 16 inches.

The manner in which this very singular ectopic gestation could have taken place remains a mystery. That there had been a partial or complete rupture, which had permitted the extrusion of the developing ovum, was very evident. Whether this rupture had taken place previous to, or after the occurrence of, pregnancy could not be determined, as there was no history at any time of symptoms which might point to the occurrence of such an accident.

The patient had been delivered of her second child (now 9 years old) in the Maternity of the Woman's Hospital. Before her return to her home, some three weeks after this birth—which was a normal labor—an examination showed the uterus to be movable, of proper size for this period after gestation, and markedly anteflexed. Of her subsequent deliveries we had no knowledge apart from the statement of herself and her friends, that they were quite normal, save for the severity of the pains.

Whether the anteflexion of the

uterus had persisted to such an extent as to produce a thinning of the anterior uterine wall at the point of flexure, which favored rupture as a result of internal pressure during gestation, or whether the rupture had been a result of some previous injury to the uterus during a labor, permitting the ovum at a very early period of its development to find its way into the abdominal cavity, it would be impossible to determine. That the rupture and expulsion of the ovum could have occurred at the time of the patient's fall is hardly probable, because of the late period of development and the absence of constitutional symptoms sufficiently marked to suggest such an accident.

Only one similar case, so far as I can learn, is to be found in medical literature. The knowledge of this I obtained through Dr. Robt. P. Harris. It is recorded in the *Bulletin de l'Acad. de Med. de Belgique* for the year 1869, by Dr. J. Lecluyse, of Poperinghe. The doctor states that he was called to a patient apparently threatened with premature labor in the eighth month of her second pregnancy. The patient had been delivered of her first child by Cæsarean section. She was a dwarf, 127 cm. in height, 28 years of age.

Upon examination a greatly contracted pelvis was found. The neck of the uterus could not be reached, nor, in fact, the uterus even found. Palpation over the abdomen showed the foetal parts to lie very closely in contact with the abdominal walls. The uterine globe could not be recognized, but the position of the foetus, its members, the head, and even the fontanelles, could be distinctly traced through the thinned abdominal wall.

The active movements of the child proved it to be living.

These physical signs led Dr. Lecluyse to diagnosticate an extrauterine gestation and to decide upon abdominal section at any time that the symptoms might become urgent. As there was no discharge from the vagina and the pains ceased, the doctor decided, for the sake of the child, to defer the operation for a time. Four days later a similar attack of severe pain led to his recall. There had been a free discharge of amniotic liquid from the vagina, and nature was evidently making an effort to induce labor. The mother had ceased to appreciate the movements of the child. The indications seemed urgent for immediate operation, as rupture of the sac was threatened. On doing an abdominal section, it was found that the membranes constituted the entire sac. The ovum had been extruded through the separated edges of the wound made in doing Cæsarean section. The placenta was adherent to the anterior surface of the small intestines. The child was not living. The sac was treated as in my case, only a portion of it being removed. The placenta, which was very small, was allowed to slough out through the opening of the sac, where it was attached to the abdominal wound. No attempt was made to close the uterine wound, which remained as a fistula, four cm. in length, at the time of the patient's death, about one week after operation.

When we consider the many ways in which the uterine wall may suffer violence, it is rather remarkable that accidents such as are instanced by these two cases should not be of more frequent occurrence.

Rupture of the Uterus During the Third Month of Pregnancy.

BY WM. A. DICKEY, A.B., M.D.,

Professor of Diseases of Children and Hygiene, Toledo Medical College.

RUPTURE of the uterus during the early months of pregnancy is of such rare occurrence that I deem the following worthy of more than a passing notice, for after a careful examination of all the literature at my command, I am unable to find a record of a similar case. Leischman says it *may* occur as early as the third month of pregnancy, but does not say that it ever has. Leopold, in his "Treatment of Rupture of the Uterus," gives nothing to guide us during the early months—so I take it he has seen no cases, or he would make mention of them. None of the other authors I have been able to examine speak of it as having occurred so early, referring to it only during the latter months of gestation and at full term.

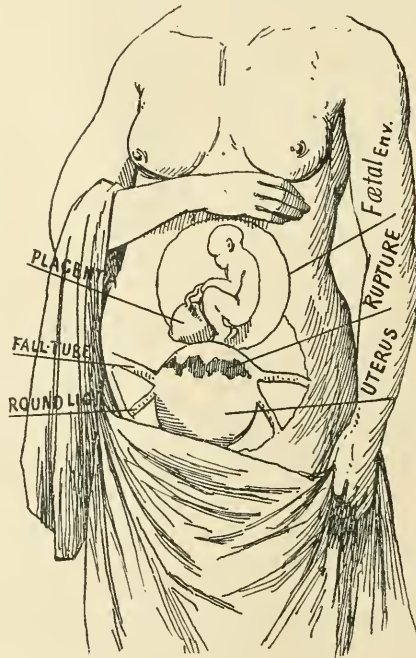
Some months ago I was called in consultation with Dr. H. B. G., of this city, to see Mrs. Judge R., who was reported by the messenger to be in a dying condition. On entering the sick-room I found Mrs. R. lying on her right side, her knees drawn well up over the abdomen, her face

perfectly bloodless, her eyes sunk, the radial pulse almost imperceptible and the extremities cold. Her head was turned restlessly from side to side, with an occasional moan. It was evident she was suffering profoundly from shock, occasioned by loss of blood somewhere within the abdominal cavity.

No satisfactory examination of the abdomen could be made, as any attempt whatever caused increased suffering and restlessness, and as she seemed to be in articulo mortis, it was thought best not to add to her discomfort. The superficial examination that was made revealed tenderness and increased fulness in the most dependent portion of the abdomen, with a feeling of bogginess.

I gleaned the following history of

the patient: She was 32 years old, and up to the time of her second confinement had enjoyed the best of health. She belonged to a long-lived and unusually healthy family, was the mother of three healthy children, and had had one miscarriage; she was now in the latter part of the third month



of her fifth pregnancy. Her first confinement was a perfectly normal one, and in a short time she was able to superintend her household duties and was in the best of health. Indeed her second labor, *per se*, presents no unusual phenomena, but the next day after her accouchement quite a flow of blood took place from the uterus, which continued unabated for a week, when suddenly there was a perfect deluge of blood, and it was thought she would die before medical aid could reach her. The family physician being away at the time, two skilful and experienced physicians were summoned, who removed from the uterus what appeared to be a piece of placenta half as large as one's hand. After this the hæmorrhage ceased. When the usual medical attendant arrived he made an examination of the case and diagnosed to the satisfaction of himself and family the presence of a uterine fibroid as the cause of the alarming flooding. From this time her health was never up to its usual standard. Some two years subsequently she again became pregnant and miscarried between the second and third months. At this time there was also alarming hæmorrhage, and her recovery was slow and tedious, leaving her still more weak and debilitated. As indicated in the outset, she was now in the third month of her fifth pregnancy.

A few days before her present illness she called at the office of Dr. G., complaining of a frequent desire to urinate, with a scalding, burning sensation during the act, the urine scanty and high-colored. Conceiving the idea that the trouble arose from malposition of the uterus, he placed the woman in his operating chair and inserted a sound up to the fundus of

the uterus, correcting, presumably, any deviation from the normal that may have existed. In the course of three or four days the patient experienced much pain in the lower portion of the abdomen, which failing to yield to domestic remedies, her physician was summoned. Anodynes were administered, which relieved, for the time being, her suffering. This was followed by a few days of comparative ease, when the pain again returned with increased violence, which continued for a few hours, when suddenly (to use her own expression) something seemed to give way in the abdomen, and she went into the collapse in which I found her. Whiskey, carbonate of ammonia and digitalis were administered, and hot applications were made to the extremities. Morphine and atropia were given hypodermically to relieve pain and secure quietude, with the hope that some reaction at least would take place, when a more careful examination could be made and a diagnosis, if possible, reached, which would, of course, guide our future action. This hope was not realized, for, after remaining in this condition for three hours, she suddenly expired.

While rupture of the uterus seemed the most probable cause of death in this case, the very rarity of such an appalling accident at so early a period of gestation, and that too without any discharge of blood from the uterus, seemed to cast a shadow of doubt over this conclusion. And yet this fact was not conclusive evidence, for in extensive laceration of the uterus the ease with which the blood can escape into the abdominal cavity would prevent the appearance of any through the vagina. Then, too, there are many cases of extrauterine pregnancy

which simulate this accident so closely that it is difficult at times to arrive at a correct conclusion. However, the fact that she had at no time suffered any pain or uneasiness in the abdominal region previous to her visit to the office of her medical adviser would cause grave doubts as to its being a case of extrauterine foetation with rupture of the sac. The possibility of rupture of the tube from other causes than pregnancy, of bloodvessels, etc., was excluded, and we were forced to the conclusion that it was a case of complete laceration of the uterus with escape of the contents into the abdominal cavity.

On the following evening a post-mortem examination was made. On opening the abdominal cavity it was found filled with coagulated blood, and a 3-months'-old foetus, enveloped in its foetal membranes, together with the placenta, was found wholly within the abdominal cavity. An examination of the uterus showed it to be torn transversely through the fundus from one Fallopian tube to the other. The uterine walls were thinner than normal, of a yellowish hue, soft and friable, and the torn edges had much the appearance of having been sprinkled with very fine mustard seed. It had undergone fatty degeneration. This morbid change was more marked in the body than the neck of the womb. What led to this pathological condition so early in pregnancy I think would be difficult to state, and it is certainly a very unusual one. Fatty degeneration of the uterus is a normal process of involution, and sometimes takes place prematurely, but it seems strange that it should have occurred so very early, if that was what led to this morbid phenomenon. She was not

the subject of any constitutional taint or dyscrasia, and, as indicated at the outset, until after her second confinement her health had been perfect. The uterine fibroid, which was thought by one of the physicians to be the cause of the post-partum hæmorrhage in her second confinement, was not found, nor was there any indication of there having been one.

This melancholy case suggests some pertinent inquiries. Is the uterus responsible for the many cases of vesical irritability so often attributed to it? Is it not about time physicians should cease to thrust the sound into the uterine cavity for every ill, real or imaginary, the female pelvic organs are heir to? Was the sound pushed through the fundus at the time of the examination in the physician's office, and thus started the rent at this particular point? This, however, seems to be the most usual site for lacerations during the early months of pregnancy. As to the first of these inquiries, I am satisfied that in a very large proportion of cases of vesical irritability the uterus is in no way responsible for the trouble; more particularly is this true during the early months of gestation. Congestion of the mucous membrane of the bladder, changes in the condition of the urine, nervous irritation, reflex in character, traction upon the uterine neck, etc., are ætiological factors infinitely more frequent than pressure upon the bladder by the gravid uterus, arising from malposition. The uterine sound is an instrument potent for good or evil, but the latter frequently far outweighs the former. In the hands of those who use it with judgment and discretion it is of great benefit in diagnosis, but no instrument in the physician's ar-

mamentarium is capable of doing, and often does, so much harm. Whether it was passed through the body of the uterus in this case cannot be determined and need not be discussed.

Rupture of the uterus during the early months of pregnancy is not unknown, though not of frequent occurrence, possibly, in the lower animals. The following case in point will, I think, be of interest in this connection, and is kindly furnished me by my friend, Prof. Robinson, of Chicago, recently of Toledo. While he was making some investigations concerning the relations of the uterus and its appendages, in the large slaughter-houses in the latter city, the butchers killed a large young cow. She was pregnant seven or eight weeks. As soon as the abdomen was opened it was seen that the right horn of the

uterus was ruptured, and the foetal calf was hanging out of the uterine horn still enclosed in the foetal envelopes. The rent in the uterine wall was about three inches long, and had been ruptured several days previous to the killing of the cow—perhaps three days. Another partial rupture existed at the uterine end of the opposite horn. The hæmorrhage had not been very great. The rupture occurred in the uterus at the point most distant from the entrance of the vessels into the uterus between the broad ligaments. The cow did not appear sick, and butchers of long experience unite in saying that such a thing is of rare occurrence. Dr. Robinson informs me that he has found remarkable pathological conditions in what were supposed to be healthy animals.

Asepsis in Intraperitoneal Surgery.¹

BY WM. H. WATHEN, M.D.,

LOUISVILLE, KY.,

Professor of Abdominal Surgery and Gynæcology in the Kentucky School of Medicine, etc.

I WILL not discuss the broad question of asepsis versus antiseptics by the use of chemical solutions in its application to general surgery; but if the proper precautions as regards cleanliness in every detail before and during an operation are observed, we need no antiseptic germicides in intra-

peritoneal surgery. If solutions of sublimate, carbolic acid, etc., are brought in contact with healthy peritonæum, their action is harmful, and if they do not cause immediate bad results they will cause subsequent trouble by so irritating the membrane as to result in few or many adhesions of the abdominal and pelvic viscera. They may leave the patient as much or more of an invalid than before the

¹ Abstract of a paper read before the American Association of Obstetricians and Gynæcologists, at the Academy of Medicine, New York, September 18, 1891.

laparotomy. Nor will I condemn the use of chemical solutions for the purpose of sterilizing the operator, assistants, nurses or patient, or the room, instruments, sutures, dressings or sponges, if used before the operation is begun, but the chemical germicide should be removed from everything that is brought in contact with the peritonæum. Unless everything is made practically clean, independent of the germicide, the latter will not make it aseptic. It is too often true that operators who are loudest in advocacy of germicide solutions are the least cleanly, and I have known them to forget to wash their hands before beginning an operation, or before examining a woman in labor. They wet the walls of the room, and the hands that have not been cleansed, in sublimate solutions, use carbolic spray, put dirty instruments, sponges, sutures and dressings in dirty vessels filled with unclean water, and expect the antiseptic to make all aseptic. Just here lies a great objection to the general use of chemical germicides, and many women have died of septic infection because of reliance upon such means.

There are relatively few men who know how to be surgically clean in every detail connected with intraperitoneal surgery, and if the time and labor which have been devoted to teaching the medical profession how to use antiseptic germicides had been directed to teaching the value and means of accomplishing surgical cleanliness, septic peritonitis following laparotomy would be comparatively infrequent. Of course, the above does not apply to all men who use chemical

antiseptics, for some of them are the most cleanly men I have seen operate, but I believe they would get as good or better results if they omitted the antiseptics. The peritonæum is usually infected by contact, and the danger of atmospheric infection is practically *nil*, as has been shown by the excellent results in laparotomies done in large and crowded amphitheatres.

In describing how to be aseptic in laparotomy work, the following order may be adopted:

(1) The operating-room and the room in which the patient is to remain during convalescence.

(2) The patient.

(3) The operator and all assistants.

(4) The kind of water to use.

(5) (*a*) Instruments; (*b*) sutures and ligatures; (*c*) sponges; (*d*) dressings and towels.

(6) Irrigation.

(7) The drainage tube.

I advocate suprapubic drainage with a small glass tube with open end and fine holes on the side extending within from two to three inches of the mouth. This is sometimes necessary to get efficient drainage, in view of the fact that blood or secretions from tissues above the pelvis do not always by gravitation go into the retrouterine pouch. In one instance where I was unable to get from the tube more than a teaspoonful of liquid until it had been pulled up at least two inches, a pint was then removed. This was within sixteen hours after the operation, and the holes in the tube were open. The liquid from the tube should be removed by suction, and I never introduce into it wick or gauze.

Transactions of the American Gynæcological Society.

Held at Washington September 22, 23 and 24, 1891.

FIRST DAY—MORNING SESSION.

The meeting was called to order by Dr. A. Reeves Jackson, of Chicago, the President.

Dr. Joseph Taber Johnson, of Washington, delivered the Address of Welcome.

The following gentlemen were among the invited guests: Dr. W. E. Porter, N. Y.; Dr. Florian Krug, N. Y.; Dr. George Edebohls, N. Y.; Dr. T. J. Allaway, Montreal; Dr. Edw. P. Davis, Philadelphia; Dr. P. H. Ingalls, Hartford; Dr. Ernest W. Cushing, Boston; Dr. Virgil O. Hardon, Atlanta; Dr. Geo. Keith, Brooklyn; Dr. L. Grant Baldwin, Brooklyn; Dr. F. E. Hitchcock, Rockland, Me.

ADVANTAGES OF MIXED NARCOSIS IN GYNÆCOLOGICAL SURGERY

Was the first scientific paper, by Dr. J. C. REEVE, of Dayton, Ohio. By mixed narcosis was meant a combination of narcotics and anæsthetics—a hypodermic injection of morphia and atropia given some time prior to the anæsthetic. This method was claimed to produce anæsthesia very rapidly with greater safety than by anæsthetics alone, and with no bad after-effects.

Dr. HENRY C. COE, of New York, read a paper entitled

ACCIDENTAL HÆMORRHAGE OCCURRING DURING THE FIRST STAGE OF LABOR, AT TERM.

Little has been added to our knowledge of this subject since Dr. Goodell's paper twenty-three years ago. It is

not the writer's purpose to discuss the entire subject of accidental hæmorrhage in the gravid womb, but simply that form which occurs during labor. This is not only the more infrequent but the more fatal form, and is rarely of traumatic origin. Five-sixths of the cases have occurred before term, due to injury.

The writer gave the history of a fatal case already reported in the *American Journal of Obstetrics*, February, 1891.

The ætiology of these cases is obscure; traumatism is the most frequent factor before labor; predisposing causes: hæmorrhagic diathesis, general febrile affections, renal troubles, death of fœtus, hydramnios, diseases of the placenta. Irregular uterine contractions have been noticed in 20 per cent. of the cases. Undoubtedly, in a certain number of cases the cause was abnormal shortness or twisting of the cord. We cannot ascribe the accident to a single ætiological factor in the non-traumatic case; there is usually a combination of several, as irregular and imperfect uterine contractions with extensive fatty degeneration of the placenta. It is impossible to predict in a given case what combinations may lead to hæmorrhage.

Symptoms.—It is important to bear in mind that there are two sets of symptoms—initial and final. Most writers affirm that the latter are alone reliable and are recognized too late for successful interference. The writer believes that it is possible to

diagnose accidental hæmorrhage at its inception by careful attention to the initial phenomena, especially irregularity and feebleness of the labor pains. Sometimes they are strong and then die away; in many cases they are feeble from the outset. The patient complains of continuous pain in the lower part of the abdomen, which gradually grows worse and assumes a bursting character.

External palpation may at first reveal nothing abnormal; auscultation of the foetal heart shows it is feeble and irregular. This is an important symptom, showing that the fœtus is subject to some serious disturbing influence, not explainable by the ordinary effects of prolonged labor. The patient may be restless and irritable, but able to sit up and walk about, and her pulse is not affected, so that the ordinary observer may mistake the case for one of simple uterine inertia.

The above symptoms should put him on his guard and lead him to suspect a possible commencing hæmorrhage. External bleeding has been absent in three-fourths of the cases reported. As Dr. Goodell says, it should be regarded as a confirmation of a diagnosis already made. The patient's pulse and general appearance now indicate internal hæmorrhage; the labor is entirely arrested, she grows weaker, collapses, and may die at any minute; or after rupture of the membranes strong pains may come on, and she may be delivered, only to succumb to post-partum hæmorrhage, if not to shock. In not a few instances death seems to be due to hyperdistention of the uterus rather than to actual loss of blood.

Differential Diagnosis.—It may be mistaken for a severe attack of colic,

but this error could hardly be made during the labor if the condition of the uterus were carefully observed. From rupture of the uterus it is distinguished by the fact that the latter accident occurs during the progress of active pains, usually before the rupture of the membranes, and is followed by a diminution rather than an increase in the size of the uterus, by recession of the presenting part, and by the sudden onset of the symptoms of internal hæmorrhage. (The writer here quoted a case of atony of the uterus due to hydramnios, which closely simulated concealed hæmorrhage. The diagnosis was settled by pushing up the presenting part, when a quantity of liquor amnii escaped instead of blood. This is an important diagnostic symptom.)

The prognosis is so bad that unusually favorable statistics lead to the inference that the cases were not serious ones. In order to save the mother and child, or even the mother alone, there must be a combination of favorable circumstances, skill and promptness on the part of the attendant, unusual resistance to shock on the part of the patient, and efficient contraction of the uterus after delivery. It should be assumed that the child will perish, its chances of surviving being extremely small. To direct our treatment with reference to its possible salvation would only hamper us in our efforts at rapid delivery to save the mother.

The prognosis varies according to the time when the accident is recognized, the amount of shock or the character of the labor pains. If the pains are fairly strong, the uterus not over-distended, the crevix dilatable, and the head engaged, we ought to save the

patient. If she is in collapse, the uterus distended and absolutely inactive, and the cervix is rigid so that time is lost in dilating it, the outlook is bad. When delivery is effected, there is great danger of post-partum hæmorrhage, which may destroy the patient, who has already been exhausted.

Treatment.—There is a want of unanimity among the highest authorities with regard to the management of these cases. Some advise an immediate delivery; others, delay. The writer disapproved of the practice of rupturing the membranes and administering ergot when there was no prospect of an immediate delivery. It might cause the uterus to contract, but it did not overcome the obstacle to delivery, and might cause continuation of the hæmorrhage. The writer's plan of treatment was as follows: as soon as the accident was recognized, to vigorously stimulate the patient by mouth, rectum and hypodermically, while sending for aid. Under complete ether-anæsthesia the os should be carefully dilated manually, Barnes' bags being employed only when the os was rigid and the patient's condition was such that a certain amount of delay could be safely practised; the membranes should be preserved intact; then version should be performed with unusual care to avoid rough manipulation. At this stage, ergot should be freely administered hypodermically. There should be a short delay before extraction in order to give the uterus time to recover its tone.

If the head is arrested by the poorly-dilated os it should be perforated instead of wasting time in trying to drag it out.

The most important step was the prevention of post-partum hæmorrhage. Instead of losing time by employing the ordinary agents—ice, hot water, astringents, electricity, etc.—the hand should be introduced into the uterus, the placenta and clots removed, and the cavity at once tamponed with iodoform gauze. This would promptly arrest the hæmorrhage, even if the uterus did not contract.

This paper was discussed by Drs. Jewett, Reamy, Skene, Emmet, and others.

THE THERAPEUTIC ASPECT OF SOME OVARIAN DISORDERS:

By Dr. EDW. C. JENKS, of Detroit. In the main this paper was a plea for more conservative pelvic surgery and for the salvation of the ovaries. He believed catarrhal salpingitis, in its early stages, was amenable to treatment by therapeutic means, just the same as catarrhal endometritis was, inasmuch as the mucous membrane lining the tubes was continuous with that of the uterus, and subject to the same changes. He recommended viburnum, apiol, piscidia, coal-tar preparations, bromides, etc., as uterine sedatives; electricity as nerve tonic, and painting of vaginal vault with tincture of iodine.

AFTERNOON SESSION.

INSANITY FOLLOWING GYNÆCOLOGICAL OPERATIONS:

By Dr. J. M. BALDY, of Philadelphia. The writer believed mental disturbances follow gynæcological operations much oftener than is generally supposed. Where there is a previous tendency to mental derangement the operation is the determining cause.

Emotional disturbance is greater at the time of surgical operations, and where there is an inherited tendency to mental disease laparotomy should only be undertaken with an understanding of the possible outcome, and not then unless the case is urgent.

A CLINICAL STUDY OF PRIMARY CARCINOMATOUS AND SARCOMATOUS NEOPLASMS BETWEEN THE FOLDS OF THE BROAD LIGAMENTS, WITH A REPORT OF CASES :

By Dr. JOS. E. JANVRIN, of New York. The paper consisted chiefly in the findings of the pathologist in three cases of (1) sarcoma of Fallopian tube; (2) primary carcinoma of the parovarium; (3) angio-sarcoma of broad ligament. The writer was aware that the primary development of malignant growths (except those originating in the ovary) in the broad ligament was extremely rare. He could not find a recorded case of *primary* carcinoma in the broad ligament. In each case there was a history of improper treatment by electricity and violent vaginal injections, which doubtless was the origin of the malignant growths.

THE PRESENT AND IMPROVING STATUS OF CÆSAREAN SURGERY :

By Dr. ROBERT P. HARRIS, of Philadelphia. The greater part of the paper consisted in a comparison of the Porro and the new or improved Cæsarean section, commonly known as "Sänger's operation," with a decision in favor of the latter. The writer believed the operation could still be improved in its technique, and that better results could be obtained by making the operation one of election and performing it under strict antisepsis, either *before* or early in the progress of labor.

A UNIQUE CASE OF MULTIPLE NEUROLIPOMATA FOLLOWING LAPAROTOMY

Was related by Dr. H. MARION SIMS, of New York. In this case the patient, a young married woman, with a history of vaginismus and severe hystero-epileptic attacks during gestation, had her ovaries and tubes removed after labor, followed by disappearance of the convulsions. Subsequently she developed a large number of small tumors, recurring in different parts of the abdominal wall, which caused intense pain and resisted all forms of treatment but the knife. The tumors consisted of "hardened fat and connective tissue with a tiny nerve filament running through the whole, tightly in the grasp of the tumor itself." They continued to recur for a period of two years. There were twenty-eight incisions in all. She has now enjoyed good health for three years, and the writer believes her cured. He had never seen or heard of a similar case.

SECOND DAY—MORNING SESSION.

Wednesday, September 23.

The President, Dr. A. REEVES JACKSON, of Chicago, read his

ANNUAL ADDRESS.

After a feeling allusion to the death of Dr. Fordyce Barker, which occurred since the last meeting of the Society, Dr. Jackson said: Mankind is slow to learn. There is a limit, usually soon reached, to the knowledge attainable by an individual, a community, a generation. None may hope for the attainment of absolute truth in art or science, or any department of human research. Such possession is only for Infinity. It is man's mission to seek for it, but, being man, it is also his destiny to fail in his search.

History is a teacher whose lessons are not always understood by her pupils, and even when understood are not always heeded. If it were otherwise there would be no occasion for their so frequent repetition. History *must* repeat itself, because of our dullness and our slowness to learn.

Medical history has been making giant strides during the past few years. And one lesson which has been taught us, over and over, in the most unmistakable manner, based upon most unquestionable evidence, is that, from the beginning, medical science has been obscured and hampered by an enveloping mantle of error—error of observation and judgment—and the pathway over which its votaries have travelled is strewn with the remains of dead and dying delusions, many of them once as seductive and dazzling and as full of vitality as electricity is to-day.

The fallacies and delusions which dominated medical belief in the past did not suddenly sicken and die. Error is never renounced abruptly. One does not let go the old ideas at once; time is always an element of change in the domain of human opinion. Indeed, when the new idea is grasped the hold on the old one is only at first relaxed, not abandoned. Is there reason to believe that we of to-day are less easily deluded than our predecessors? It is true that we no longer acknowledge the efficacy of Perkin's tractors, or the healing virtues of blue glass, or of cundurango; but has there been a lack, in very recent times, of testimonials from distinguished men asserting the curative power of Séquard's animating and rejuvenating juice; or of sulphuretted hydrogen per rectum, and tuberculin per syringe for tuberculosis?

Gynæcologists have passed through many changes of opinion and practice during recent years. We all have a vivid recollection of the womb-splitting delusion, during the continuance of which the only question concerning the matter related to the direction of the split—whether it should be backward, forward, or on both sides. There was no frivolity about that treatment; it was terse and vigorous. Women were reported as relieved by it of backache, dysmenorrhœa, flexions and misplacements. Many ingenious and business-like instruments were designed for the purpose of performing the prevailing operation. The great leader in this movement had a large following, and the number of women subjected to the procedure ran into thousands. Soon the fact came to light that metritis and other forms of pelvic inflammation had occurred in some instances, that death had resulted in some others, and that many of the women who had been reported relieved or cured were very soon suffering as greatly as before. The scales began to fall from the blinded eyes, and slowly the delusion was dispelled.

• But another was ready. Thomas Addis Emmet accidentally discovered that in a case of long-standing pelvic disorder which had unreasonably resisted various usual methods of treatment there was an extensive laceration of the cervix uteri, permitting such a degree of eversion of the cervical lining membrane as to cause constant irritation of the delicate glandular structure of the interior. He devised an operation for the restoration of normal conditions, with a most successful issue. Case after case followed, and the results were so gratifying that, when the history of a

number of them had been published, everybody was on the lookout for uterine lacerations; and, inasmuch as one could be found in nearly every woman who had borne a child, material was abundant. Thousands of women with backache and leucorrhœa were subjected to a surgical operation which, in many cases, they were in no more need of than were their husbands. The essential features of the cases needing operative measures as defined by their author were disregarded, and the enthusiastic seeker for something to cut and stitch rarely failed to find it. The most insignificant change of shape in the os uteri was excuse enough for an operation. Ailing women came to feel neglected if an operation were not performed for them; and they changed their doctor sometimes in order to get one who had operated on their neighbors. The abuse, like most others, worked its own cure; and now the procedure, a most beneficent one in suitable cases, is becoming restricted within proper limits.

The speaker then gave some details of the influences which have resulted in the prevailing tendency to a surgical treatment of nearly all the special diseases of women, referring, in this connection, to the work of Battey, Tait, Hegar and others. After commenting upon some of the reckless and unreasonable surgery of the past few years, the speaker said: I do not consider a desire to achieve scientific fame an improper ambition, or as being necessarily injurious; but the effect of such a desire when it becomes overweening, when it is not governed and held in check by an unselfish honesty of purpose, may, in our imperfect mental organizations, lead

to unworthy methods. Disguise it as we may, the law of living is selfishness; and we all find it easier to think well than to do well. The effort to attain distinction prematurely by a cross-cut is a rock upon which many have split. It is undoubtedly better to drive slowly in the right direction, or even stand still, than to go at breakneck speed in the wrong way. Activity, while usually preferable to idleness, is not always so; it may be dangerous. It is better to let a field lie fallow than to sow it with weeds.

True conservatism in medicine implies saving of life by the least hazardous methods—without mutilation, if possible—and it never seeks to avoid efficient means of treatment. To treat tentatively any diseased condition which time only makes worse—to attempt to disperse a pelvic abscess or a cystic ovary with electricity, or hot vaginal douches, or massage, or drugs—is mere senseless trifling. So-called Christian Science would do as well. This is not conservatism; it is malpractice. In the matter of the treatment of disease, conservatism demands the best and the safest.

Dr. Jackson then spoke deprecatingly of the too frequent resort to pelvic examinations and instrumental treatment in the ailments of young girls and unmarried women.

He likewise condemned the practice of publishing hasty and immature reports of surgical work. Other work, of more modest character, requiring more patience, sometimes more skill, which is frequently more useful and more scientific, is not usually deemed worthy of report because it lacks the greater brilliancy of cutting. "The reports," he said, "to which I refer are, as a class, very often of no value

whatever except to let the world know that the reporter has been doing something; and usually this is a matter about which the world is supremely indifferent. In order that medical and surgical experiences should be of scientific worth, it is necessary that the results should be sufficiently numerous and sufficiently mature to permit Time, the prover of all things, to have an opportunity.

"I sometimes fancy that as members of a community we lose sight of our personal accountability. Whether we think of it or not, we are constantly imprinting ourselves upon our fellow-creatures by our examples and our lives. We can no more avoid this than the sun can withdraw his rays from the earth, or the flowers hide their beauty from the eye of man. Though our influence be unconscious, it is the inevitable result of our characters, which we have been building up, stone upon stone, all our lives. So, whether by direct or indirect action, whether by simply living or by earnest striving, we are, every one of us, making the world better or worse, happier or more miserable, nobler or meaner, purer or more corrupt. Personal influence is the heritage of all; no one can shake it off; no one can escape its obligation. It is like an atmosphere, which all combine to create, and which every one must inhale. Let us see to it that our contributions to this common air give to it something of sweetness and purity, and that the world shall be somewhat brighter and better for our passing through it.

"What of our future? The present status of our society is conceded to be a high one. But may it not be higher? The outlook is surely hope-

ful. No reason is apparent why our course should not be in the future as it has been in the past, onward and upward. With the annual infusion of new blood must come new vigor. With improved nutrition there should come improvement in method and manner of thought and action. Social organizations, like living organisms, grow by what they feed upon. We should grow better as we grow older. Already there are evidences among us of a more healthy tone of professional opinion and practice in regard to some of the questions that have agitated and divided us. We may expect this thoughtful wave to broaden and deepen. Why may there not come a sort of millennium, when vaulting selfishness shall no more occupy the place of a generous altruism; when men shall be more ready to speak of the good works of others than of their own; when impulse shall give way to deliberation, and there shall be a willingness to patiently weigh testimony and await the verdict?—in short, when virtue shall have everything her own way, and the adversary of souls shall find his occupation gone. In that millennial day, when Truth's errant knight, returning from afar, shall call to the sentinel guarding her palace—

'Watchman, tell us of the night,
What its signs of promise are,'

the jubilant answer shall come, laden with implied hope—

'Traveller, o'er yon mountain height,
See that glory beaming star.'"

Dr. WM. H. BAKER, of Boston, read a paper, entitled

CANCER OF THE CERVIX UTERI: RESULT IN ITS TREATMENT BY HIGH AMPUTATION.

The writer referred to the great im-

portance of tracing the future history of these cases. After a great deal of persistent labor he was now able to present the complete after-history of the first series of cases reported in 1882. Out of these forty-seven cases only twelve were found suitable for radical operation, and during the seven subsequent years from 1882 to 1889, of the whole number of cases observed being ninety-two, only sixteen were such as offered any hope from high amputation. Why is it that the specialist sees comparatively so few cases at a sufficiently early stage of the disease, to accomplish the most by a radical operation? The answer is: First, the early symptoms are not marked, pain as a rule being absent until late in the disease, and hæmorrhage and leucorrhœal discharge are considered by the patient as conditions to be expected at the menopause which she supposes is about to take place. Second, the general practitioner is too frequently inclined to delay any radical measures, until he has wasted valuable time with useless remedies, which have destroyed any hope that might have been entertained for the saving the life of the patient by a radical operation.

The first cause arises from the ignorance of the patient, and therefore her failure to consult the physician.

Physicians should educate women to the idea that hæmorrhage and leucorrhœal discharges are not necessarily the conditions of the climacteric, and if they occur there must be some pathological reason for it. Thus they will be led to turn to their physician for advice when any deviation from the normal condition presents itself.

In the second cause there is less excuse for the ignorance of the physi-

cian. If he does not know the condition or importance of the diseased state which he finds present, he should be honest enough to say so. He should consider it his duty to carefully examine every case that presents any of the possible rational signs of this disease, digitally and by the speculum. He should not be content to delay the more thorough examination made by removing a portion for microscopical examination in any doubtful case, satisfied with the idea that a little time will determine the true nature of it, or that he will see the effect of this or that application to the local disease, or by trying to convince himself that he ought not to alarm the patient by making so much of her trouble as would be entailed by the necessary examination. He should remember that the life of the patient is in his hands, and if he fails to offer her the means of recovery while it is possible to perform a radical operation he is justly open to censure.

At the first report in 1882, there were ten cases in which high amputation had been performed without a death, eight of whom were living and well at the time of this report, having enjoyed a varying respite of from a few months to four years. In 1886 six of the ten were living and well after a varying interval of from four to eight years, the other two having succumbed to the disease. I am now able to report fifty per cent. of the original cases well after a period of from ten to twelve years.

The author gave the details of these cases.

The writer emphasized the great necessity of thoroughly cauterizing the raw surfaces after the removal of the growth by the knife. Firm trac-

tion on the cervix will often control the hæmorrhage and allow the cauterization to proceed over a clean wound, though it is frequently necessary to ligate the uterine arteries through each lateral vaginal vault.

In the second series of cases, from 1882 to 1889, there was no recurrence of the disease in $62\frac{1}{2}$ per cent. of the cases operated upon.

He claims for this operation: First, greater safety to the life of the patient; second, longer respite from any recurrence of the disease.

Too short a period of time is generally accepted as a standard of respite from recurrence of the disease, upon which to base statistics. From the fact that one case in the first series died from the disease eight years after the operation, and another in the second series died from a recurrence of the disease after six years, the great importance is shown by keeping all these cases under observation for many years.

CONCLUSIONS.

(1) That a thorough removal of all the disease should first be made with scissors, scalpel or uterotome, keeping well outside the infiltration, and in apparently healthy tissue.

(2) That the wound should not be immediately closed, but that every portion of it should be kept under observation until entirely healed.

(3) That the thorough application of the cautery is an all-important factor in the success of this operation.

(4) That it is often necessary to do some slight secondary operation to insure success.

(5) That the cases must be under close observation for years.

Contrasting the high amputation with vaginal hysterectomy, he believes

that in all cases of cancer in the cervix, which have not become fixed by an extension of the disease, high amputation, with the application of the cautery immediately following, is the safest and best method of treatment.

That vaginal hysterectomy should be reserved for cases of cancer primarily affecting the corpus uteri, or those exceedingly rare cases of cancer of the cervix, where the disease has extended to the corpus uteri without fixing the uterus.

HENRY J. GARRIGUES, M.D., New York:

THE BEST POSTURE IN THE DIFFERENT STAGES OF NORMAL LABOR.

ABSTRACT.

A change has taken place in the customary position in which women are delivered in the United States. Now some speak of an American (dorsal) position as opposed to the English (left lateral), while until thirty years ago nearly all American obstetric authors recommended the English position. In so far as New York is concerned this change is probably referable to the influence of Fordyce Barker and Isaac E. Taylor, who both studied obstetrics in France, where the dorsal decubitus has been used by obstetric teachers from the earliest time.

Obstetricians have in different ways tried to find out what would be the natural posture for a parturient woman.

Nægele watched secretly an inexperienced girl, who was left alone in a room with a bed, a sofa, a common chair and an obstetric chair. Such conduct is cruel and might become criminal, and no conclusion can be drawn from a single observation.

Schütz and Cohen von Bären have collected one hundred and fifty cases of clandestine birth; but since these women, under the influence of their violent sufferings, occupied the most different positions, no conclusion can be drawn from them either as to the best way of placing a woman during labor.

Others have studied how labor has been conducted during the historical development of mankind, and how it is yet conducted in primitive peoples and savage tribes. In this way the question cannot be answered. The great diversity of positions found among these uncivilized people shows that they are not due to an instinct. Secondly, among these people as well there are customs and traditions and rules laid down by persons who are supposed to possess a higher knowledge than the average individual.

Thirdly, the fact that savages do a thing in a certain way is no proof that it is the best way or even a good way.

Instinctively the woman in labor will try to avoid pain, and, if that is impossible, to get through as soon as possible. She will, therefore, not use her abdominal muscles during the passage of the child through the pelvis, and on the other hand, when it distends the vulva, she will use every means of expelling it.

Science proceeds in an entirely different way. In the course of ages man has studied the anatomy, the physiology, the pathology of labor. He has invented the stethoscope by which he ascertains the condition of the child while it is yet hidden in the womb, and can relieve or annihilate the pain of the parturient woman.

In deciding the posture a woman

should occupy during labor, we must take into consideration her comfort and safety, the child's safety, and the accoucheur's comfort, which latter contributes to the mother's safety.

All agree that during the stage of dilatation of the os, the woman should stand erect, sit on a chair, or walk about, because it abridges the time she has to lie down and diverts her mind from her sufferings and fears, and that she should not bear down during pains, because it only exhausts her strength without furthering labor.

While the child is passing through the bony part of the parturient canal the semi-recumbent position on the back is the best. The contraction of voluntary muscles and gravity co-operate with the contraction of the womb. The entrance of the head into the superior strait is favored. The stethoscope can easily be applied to the abdomen. Manual pressure may be exercised on the womb.

The woman should, however, not bend so much forward that the muscles of the back are placed at a disadvantage.

Sometimes a change of position is useful.

When the vulva begins to open, the patient should be turned on her left side and lie horizontally, her thighs at right angles, with the trunk and the legs and lumbar region stretched. All support should be taken away from hands and feet, and chloroform should be given.

In this position the os coccygis has free scope to recede backward. The genitals become visible and easily accessible, while the rest of the body remains covered, whereby exposure to cold is avoided, and attention is paid to propriety. She does not see

the accoucheur and has a feeling of being hidden. Abdominal pressure is limited. The fundus uteri sinks down, so that gravitation works in a direction opposite to that of uterine contraction. Besides being a safeguard for the perinæum, the left lateral decubitus facilitates other measures for its protection, such as pushing the head toward the pubic arch, preventing the head from emerging too suddenly, or enucleating it in the interval of pains.

It is not necessary, and perhaps not even advisable, to place a pillow between the knees or to let the nurse lift the right leg.

The stretching of the lumbar part of the vertebral column facilitates the passage through the lower strait. The other points are all calculated to preserve the soft parts.

During and after the expulsion of the placenta, the woman should be on her back, but now with her head low. This position is better adapted to Credé's method than the English.

The kneeling-squatting posture is fatiguing, predisposes to hæmorrhage and fainting, makes the use of the stethoscope difficult, nearly excludes every kind of protection of the perinæum, and renders the use of chloroform impossible.

In cases of lingering labor, it may be tried like other positions formerly in use, such as sitting on another's lap, leaning up against another in an erect posture, leaning forward over a table and the genu-pectoral posture.

Dr. W. GILL WYLIE read a paper on
THE INFLUENCE OF IMPERFECT DEVELOPMENT OF THE GENERATIVE ORGANS AS A CAUSE OF DISEASE.

In studying the nature of a disease

the most natural tendency is to attribute the cause of it to some immediate exciting influence, such as a fall, exposure to cold, etc. This is especially true in studying the diseases of women. The more remote and real cause is often entirely overlooked and the treatment based on false ideas of the cause of the disease.

Take, for instance, catarrhal endometritis resulting in dysmenorrhœa, sterility, etc. It was until recently almost universally attributed to falls causing antelexion, or to exposure to cold during menstruation. This led to pessaries and other vain attempts to straighten the uterus, to useless and often harmful rest in bed during menstruation, to the housing of young girls, and limiting the normal amount of physical exercise. The very important fact that imperfect development of the uterus made that organ the easy prey of catarrhal disease was and is still rarely considered in deciding upon a method of treating dysmenorrhœa.

When several weeks after labor a patient complains of profuse leucorrhœal discharge, severe backache, and dragging pains about the legs, and examination shows a large displaced uterus, with torn cervix, everted and diseased, it is all attributed to the labor and too short a period of after-rest. The very important fact is overlooked, that before labor and even before pregnancy the uterus was a small, imperfectly-developed organ, with an erosion about the os caused by diseased glands and follicles, and incapable of distending or expanding to permit the head of a child to escape without tearing the os uteri, no matter how carefully attended during labor, and when once torn the existing

disease of the gland and follicles prevents normal healing and results in eversion, irritation, congestion and subinvolution, softening and displacement. The displacement is as a rule merely an incident, and is very rarely more than a complication of the real disease. In very many instances imperfect development is the real cause of laceration of the cervix.

It is admitted that in animal life the higher the animal organization the less prolific are the generative organs, and among the races of men the higher the state of civilization the fewer children are born, and that in the same community the better class and more highly developed intellectually have fewer children than the poorer class who make their living by their muscles rather than their brains; the higher the scale of development intellectually the more suppressed are the generative organs. Among the poor more children die under five years of age than among the rich; the children of the latter who are feeble and sickly are more likely to reach puberty than the sick and weakly children of the poor, where the law of the survival of the fittest is not so much interfered with as it is among the rich and more intelligent. Thus we would look for more uterine disease among the children of the rich, and more women with uterine disease among the race or people of highest intellectual development.

It has been claimed that here in America we have relatively more uterine disease than exists in Europe. If the people of the United States of America enjoy a higher state of modern civilization, this greater amount of uterine disease would be accounted

for. Aside from these factors there is a very much more important influence at work in causing uterine disease, and that is the general tendency to restrict the *physical* development of our females by limiting their out-of-door life and exercise after they reach ten or eleven years of age, and the marked modern tendency to force mental development, especially of woman, just at the time when they are changing from girls to women.

There is very little doubt but that in America this practice is more marked than in Europe and is the chief real cause of most of the diseases of women.

The generative organs are the last to develop, remaining practically dormant until the girl reaches the age of eleven or twelve, from which age they begin to develop, and make a large demand on the system up to about the sixteenth year. To insure full development, during this period a girl must have a *surplus* of physical and nerve force. If this force is closely used up by mental and emotional work or strain, the generative organs will fail to develop sufficiently to perform their functions normally; that is, if a girl is pushed at school, or her force is used up by constant contact with older intellectual people, from the age of ten to fifteen, she is almost certain to have a leucorrhœal discharge, irregular and painful menstruation, etc., and when examined locally an infantile, anteflexed uterus will be found with such a disease of the glands and follicles as to cause a semi-raw state, or granular erosion, which the older men treated as ulceration.

Bad hygienic surroundings, or a serious illness, or more especially

anything which brings about an anæmic and weak condition during the period of development, is pretty sure to result in an imperfectly formed uterus, dysmenorrhœa, and sterility.

Typical cases of imperfect development are to be found among the students of our normal schools, for to graduate in a normal school usually implies severe mental work, just when development is taking place.

As a rule, leucorrhœa is one of the first local symptoms, usually soon followed by dysmenorrhœa. Unless marriage, which tends to stimulate development, takes place in early life, the abnormal changes induced by the catarrhal endometritis are pretty sure to result in sterility. If marriage and pregnancy occur, the os uteri being hard and incapable of much distention, a laceration of the cervix is apt to result. The diseased glands and follicles prevent the healing of the tear, and the existing disease is aggravated, involution is delayed, the uterus remains soft, the ligaments relaxed, producing the many cases of so-called displacements. The feeble condition of the tissues makes sepsis more likely to follow labor and abortions, or to bring about conditions favorable for the development of new growths, such as fibromata or cancer.

The condition of imperfect development may extend to the ovaries and result in imperfect or abnormal ovulation, in sterility, or reflex nervous symptoms.

The author believed that to house a girl during menstruation and deprive her of outdoor exercise did more harm than good.

During the period of active development the general health should be maintained, the bowels kept regular,

and healthful play of out-of-doors and pleasing mental occupation should take the place of an indoor life, forced cramming and stimulating contact with older people. A girl has brains to develop, but they can be best developed after her generative organs have grown.

When we meet with a small uterus, with semi-raw os and contracted canal, due to imperfect development, our aim should be to cure the local disease of the glands and follicles, and then stimulate the uterus to development, keeping the general health good in order to prevent a recurrence of the abnormal conditions. If pregnancy, however, takes place in such a uterus, bring on premature labor, if indicated, to prevent extreme lacerations. Beginning ten days after labor, make applications twice a week to the vagina of a firm cotton pledget saturated with boro-glyceride. Place the patient in Sim's posture, the uterus pushed up in position, one end of the cotton pledget is placed in the cul-de-sac, the other being pressed by the perinæum up under the pubic bone, thus filling the vagina so that the uterus cannot be displaced downward and forward. Remove after twenty-four to forty-eight hours, wash out the vagina with solution of hot water and borax, and repeat application every third or fourth day until involution is complete.

This rarely fails to relieve all local symptoms, and enables the patient to be up and about after the first week or ten days. If this process was carried out after all labors it would with rare exceptions prevent further local trouble.

Dr. HENRY T. BYFORD, of Chicago, read a paper, entitled

THE TECHNIQUE OF VAGINAL FIXATION
OF THE STUMP IN ABDOMINAL HYS-
TERECTOMY.

The author cites an experience of twenty cases, with one death, a mortality of five per cent.

The steps of the operation are given as follows :

(1) Ligating and sewing broad ligaments.

(2) Separation of the bladder from the uterus.

(3) Placing elastic ligature and pedicle pins.

(4) Ligating the stump and suturing the pared edges ; all sutures and ligatures of stump to be left about four inches long.

(5) Removal of elastic ligature.

(6) Incision into the anterior fornix of the vagina.

(7) Turning the stump into the vagina.

(8) Sewing the bladder peritonæum over the stump so as to shut off the peritoneal cavity.

(9) Closure of the abdominal incision.

(10) Placing clamp on the stump through the vulva, in the lithotomy position.

(11) Checking oozing from vaginal edges by diluted Monsel's solution, and loose packing of vagina with anti-septic gauze.

The author warns against too much handling of intestines, and considers this one of the chief dangers ; he also cautions against taking deep stitches in sewing the peritonæum over the stump, for fear of leaving bleeding stitch-holes. Spurting vaginal arteries should be tied when severed.

A comparison of methods concludes the paper. Intraperitoneal methods

of treating the stump are considered as inferior because of the impossibility of rendering the stump harmless to the peritonæum, and their unfavorable statistics. Total extirpation is regarded as too grave an undertaking, as is claimed to be proved by statistics. Ventral fixation is regarded as safe enough, but inferior to vaginal fixation on account of the unnatural position of the cervix and the danger of hernia.

Vaginal fixation is claimed to possess most of the advantages of the other methods with few of the disadvantages. Its mortality is the lowest ; its execution quite rapid ; it need involve but little exposure of intestines ; it leaves the stump in a natural position entirely outside of the peritoneal cavity ; it leaves the smallest wound surface in the peritoneal cavity ; it has, like total extirpation, a safety-valve in that there is an opening at the bottom of the peritoneal cavity, closed only by superficial catgut sutures ; it preserves the portio-vaginalis and vagina unmutilated ; bladder rents can be treated extraperitoneally without displacement of the viscus ; the necrotic stump is held off from the wounded tissues ; perfect hæmostasis is attained.

SECOND DAY—AFTERNOON SESSION.

SUGGESTION OF CERTAIN RULES TO
BE FOLLOWED IN THE EFFORT TO
PREVENT MURAL ABSCESSSES, ABDOM-
INAL SINUSES AND VENTRAL HERNIA
AFTER LAPAROTOMY :

By Dr. HORACE T. HANKS, of New York. The writer believed ventral hernia after laparotomy could be prevented by a careful coaptation of the different layers of peritonæum, muscle

and fascia. To avoid mural abscesses, make a clean-cut wound; handle the lips as little as possible; take no sepsis into the wound when removing the sutures; do an aseptic operation. To avoid sinuses, never allow a drainage tube to remain *in situ* more than twenty hours, and keep it clean; do not use a tube when unnecessary.

SOME CLINICAL TESTIMONY ON THE
ULTIMATE RESULTS OF REMOVAL OF
THE UTERINE APPENDAGES:

By Dr. THADDEUS A. REAMY, of Cincinnati. In a series of 163 cases the appendages were removed for pyosalpinx, hydrosalpinx, bleeding fibroid, neurotic symptoms and hystero-epilepsy, with the following results: 40 cases cured; 60 cases, general condition improved; 30 cases temporarily improved; 10 cases worse than before operation. Menstruation ceased in a short time in every case after removal of both ovaries. With the cessation of menstruation, in 14 cases, sexual appetite extinguished; in 7, increased; in 7, lessened; and in 16 not influenced.

THE INDICATIONS FOR LAPAROTOMY IN
THE TREATMENT OF THE PUERPERAL
FEVERS:

By Dr. RICHARD B. MAURY, of Memphis, Tenn. The characteristics of the puerperal fevers are given in this paper, the writer dividing them into two classes--the mild self-limited peritonitis and the severe fatal cases. In the first class, where the inflammation is localized, the indications for laparotomy are favorable, the writer having had one successful case, and mentioning four others in the practice of a friend. In the second class, where there is no localization, the in-

dications for laparotomy are very doubtful, the record of a successful operation being unknown. As it is impossible to tell which class a given case comes under, following the advice of Lawson Tait, in every case of acute puerperal peritonitis we might, by opening the abdomen early, save some lives.

A STUDY RELATIVE TO THE FUNCTIONS
OF THE REPRODUCTIVE APPARATUS
IN AMERICAN INDIAN WOMEN.

By ANDREW F. CURRIER, M.D., New York city. A careful examination of the *Indian question* as it is presented to the people of the United States must lead to the conclusion that the Indians must submit either to civilization or extermination. Civilization and savagery cannot coexist at close contact; savagery always has to yield. The lines are fast closing around savages and savage institutions in this country, and *they* will have to yield. To break up tribal distinctions, give the Indians land in severalty, educate them, abolish polygamy, barbarous costumes, heathenish practices, and keep whiskey away from them, is the present policy of the Indian Bureau, and it is wise, just and hopeful.

The author's investigation was made with the approval and co-operation of Hon. Thomas J. Morgan, Indian Commissioner, the late Surgeon-General Dr. J. D. Baxter, and the present Surgeon-General Dr. Charles Sutherland, to whom he wishes publicly to express his gratitude. He also desires to publicly thank the Indian agents, physicians employed at Indian agencies, and army surgeons who have co-operated with him and advised him, and without whose generous assistance the investigation could not have been

made. The data were obtained in the face of the greatest obstacles, for Indians are ignorant, superstitious, prejudiced and suspicious, and the time required in many instances was considerable, perhaps more than was warranted by the results to be obtained. From twenty-eight Indian agencies and army posts interesting facts were gathered, all the correspondents being in immediate communication with the Indians, some of them for many years, and all being entirely reliable sources of information. The report of the Indian Commissioner for 1890 was also freely consulted and the source of much valuable information.

The subjects on which information was sought included menstruation, conception, gestation, parturition, the puerperal period, the menopause, sexual appetite, pelvic disease, including venereal and malignant, and a variety of others of kindred nature. In children the great frequency of glandular disease, including the venereal, was noted, and the great mortality among infants. Puberty was reached in the southern tribes, the Apaches, Mojaves and others, quite early, the average, in a given number of Apaches, being $12\frac{1}{3}$ years. In the northern tribes it was reached later, the average, in a given number of Cheyennes and Arapahoes, being 17 years. In a large number of Sioux the average age was 15.11 years. In most of the other tribes the average age was under 15, and it was believed that savage life *per se* neither hastened nor retarded puberty, but that climate, occupation and hereditary tendency were the factors of greatest importance. With very many Indian women, especially the more degraded, the coming, course and going of men-

struation were alike matters of indifference. They neither knew nor cared as to its duration. At four agencies the duration had been observed, and the limits given were two and six days. Seldom was there any pain with menstruation, though in some of the tribes it was said to be present at the first menstruation, but rarely afterward. Among the Indians who have become civilized painful menstruation was not infrequent. The quantity of blood lost at menstruation was almost invariably a matter of indifference. Only a single case of amenorrhœa was reported.

The advent of puberty is celebrated by barbarous dances in some of the tribes. At the Quapaw Agency (Ind. Ter.) the "stamp dance" is thus celebrated. At Sound Valley Agency (Cal.) the menstruating girl joins in a furious dance with older women, keeping it up until thoroughly exhausted. At the Neah Bay Agency (Wash.) the menstruating girl fasts three days, then is stripped naked and washed in a stream in the presence of her friends and relatives. After this her parents give a *pil potlach* (giving away of blood), which is very disgusting, and said to be analogous to a birthday party.

The menopause seldom caused any trouble. The age at which it comes showed as wide a diversity as it does among civilized women, and there was also the same variety as to duration. It may come abruptly or it may require several years.

Marriage was said to be mainly a matter of convenience or inclination in most of the tribes, with nothing especially serious or binding about it, either party leaving the other as the notion prompted. Polygamy was still

common in some of the tribes, though the government was endeavoring to break it up. Virtue and chastity were ignored altogether, or but lightly esteemed in all but a few of the tribes. A change for the better in such matters is most marked and most gratifying in some of the localities which have been under educational and religious influences.

Among the Klamaths (Oreg.) young men are not infrequently married to old women. Among the Crows and Assiniboines marriage arrangements are between a girl's parents and her suitor. The latter pays a horse for her, or some other object of value, the girl then measures the man for a pair of moccasins as a sign of acceptance, goes to his lodge, and is henceforth his wife.

The marriage and divorce customs among the civilized Cherokees are much the same as among intelligent whites. The ceremony may be either a simple agreement between the man and the woman, or the more formal one of the Church or State. Cherokees are said to be more virtuous and strict in regard to the marriage relation than whites.

Marriage in most tribes is consummated very early in life, at 17 or under; in many cases almost as soon as puberty is reached.

Conception and gestation are favored in the majority of the tribes by an ardent sexual appetite and an out-of-door life, and large families of children are of frequent occurrence. Abortion seldom occurs as the result of the severe labor and other trials to which Indian women are all subject, but is common enough as the result of syphilis and criminal interference. Among the more degraded and physically inferior

tribes the families of children are small. In almost all the tribes the infantile mortality is very great. The struggle for existence on the part of an Indian baby is a severe one.

Some of the women drink decoctions of certain herbs to prevent conception. The Crows and Assiniboines use the most violent means for producing abortion. One of them consists in thrusting a sharp stick into the vagina and womb, thus rupturing the ovum. Another consists in causing the patient to rest her belly against the top of a stake which is driven into the ground, and about two feet high, and whirl around upon this until the foetus is expelled. In yet another, the patient lies on her back on the ground, a large board is laid across her belly, and upon this two or three of her female friends, in turn, stand or jump until the blood gushes from the vagina; or the belly is kneaded or tramped upon until the foetus is expelled.

Among these Indians last mentioned, when a baby is born, the umbilical cord is cut with a *new* butcher-knife, the stump is well greased, and the infant is then thrust into a laced sack, made of blue cloth, containing pulverized bull's manure or the inside bark of the cottonwood tree. This lining, with the child's discharges, is changed three or four times daily. When the stump of the cord drops off it is preserved in a beaded pouch and worn around the neck or waist as long as the person lives. Parturition is usually a natural and easy process with Indian women. One of my correspondents graphically said it was about as easy as for a cow to have a calf. With many women no assistance during

that process is required or tolerated. With others, midwives are employed, and these manifest varying degrees of superstition and ignorance. Occasionally an herb-doctor will be called to attend a woman in confinement, but, as a rule, no man, whether a physician or not, is expected or allowed near a woman at such a time. Where the Indians are becoming educated and civilized they are gaining more and more confidence in white physicians, and occasionally one will be called to attend a confinement, especially if any complication has arisen. The favorite position during labor is the kneeling one, the arms, chest and head resting upon a support of some character; but by many the squatting position is preferred. The ease with which delivery is accomplished in these positions, and the simplicity of the whole procedure, is not without suggestiveness to those of us who are endeavoring to carry out the multitudinous details of modern antiseptic midwifery. The lying-in chamber and the lying-in bed for the tribes which have had little contact with civilization do not exist. Delivery takes place in the open air, in the bushes, by the side of a stream, perhaps when the tribe is on a march. The regular duties of the squaw are not long interrupted by parturition, and if her party is on the march she hurries on to overtake them after the birth of her baby.

In some tribes it is the custom to facilitate the expulsion of the placenta by tickling the parturient's nose with a feather and provoking sneezing.

Among the Sacs and Foxes the placenta is wrapped in the blanket on which delivery took place, and se-

cured to a tree to keep it from wild animals. Should a wolf or coyote get it and eat it the child would resemble such an animal, and eventually be devoured by it. It must not be thrown into the river lest the child should resemble a fish, or be drowned and eaten by fish.

The accidents of parturition are few, occurring perhaps as frequently as in the lower animals. The agency physicians have reported cases of faulty presentation, retention of the placenta, and rupture and procidentia of the uterus. The Indians are just beginning to appreciate the value of skilled assistance for such emergencies. Puerperal diseases were said to be unknown among Indians.

Malignant disease is of rare occurrence, especially among the full-bloods. Cancer of the breast was reported, but not of the uterus. Of course it is possible that the latter might exist, and its existence never be known by any but the patients, owing to their extreme reticence concerning disease of the genital organs. For the same reason it is impossible to say to what extent pelvic disease in general exists among Indian women. Cases were reported in which there were deformity of the uterus, ovarian pain, abdominal dropsy, leucorrhœa and gonorrhœa, so that it cannot be said that pelvic disease is unknown among them. It is probable that they are less susceptible as well as less sensitive to such diseases than civilized women. Those who are becoming civilized or are already civilized, suffer from pelvic disease to about the same extent as the whites. Venereal disease was said to be very prevalent, and doubtless it has much to do with the fee-

bleness of the children and the high rate of mortality among the infants.

CONCLUSIONS.

I. *Puberty*.—The mere fact of living in a savage state has not much to do with the early or late appearance of puberty. The Apaches and Mojaves of the hot and desert regions of Arizona mature young, but so do the females of southern Europe and the tropics generally. The law is general that both animals and plants should mature early under a tropical sun. The females in the northern tribes, the Cheyennes, Arapahoes, Crows, Assiniboinés and Sioux, develop more slowly, as is the case with women in northern Europe.

II. *Phenomena of Menstruation*.—Savage life, with its vicissitudes and hardships, does not usually interfere with the regular recurrence of the monthly flow. Influences which would disturb or check it, and possibly produce permanent injury to a woman in civilized life, seem to have no such effect upon Indian women. Excessive menstruation is practically unknown. On the other hand there are occasional instances of dysmenorrhœa or amenorrhœa in connection with disease or deformity of the pelvic organs, so that savage life does not necessarily furnish immunity from such experience.

III. *Menopause*.—Indian women are exceptionally free from the nervous and vascular disturbances which so commonly accompany the menopause in civilized women. The duration of the menopause varies as greatly as it does in civilized life. It usually comes between the fortieth and fiftieth years, but not infrequently is delayed far beyond the fiftieth year.

Many gestations occurring in rapid succession, continuous hard work and the exposure and physical suffering incidental to a savage life do not tend to shorten the menstrual and child-bearing periods.

IV. *Marriage and Sexual Appetite*.—The social condition of Indian women is an anomalous one for this age and country. They must bear the burdens, do the drudgery, bring forth and rear the children, and then, perhaps, be cast aside at the merest whim of their husbands. Marriage among American Indians means, as a rule, communism, polygamy, unrestrained lust, according to circumstances, all of which must be abandoned as they emerge into civilization, for they are incompatibles. Sexual appetite in Indians is the uncontrolled and uncontrollable desire of the wild beast, or it is an indifference in women of the degraded and debilitated tribes, except as it is associated with the idea of gain.

V. *Conception and Gestation*.—The habits and manner of life in the more vigorous and well-developed Indian women are favorable to fruitfulness in child-bearing; but the facts that so many children die in infancy and that the restraints of civilized life are fatal to so many more show that the race is not a hardy one. The unhygienic condition of the homes in many tribes, with their filth and degradation, and the frightful abuses of the abortionists in others are further tending to weaken the race and impair its future.

VI. *Parturition*.—The case with which parturition is accomplished among Indians is an interesting fact. It must not be overlooked that the squatting or kneeling posture which

they assume during labor is more favorable to muscular effort than the positions with which we are familiar in the lying-in chamber. This is a suggestive fact; so also is the apparently total absence of puerperal diseases among Indians. This is the result of pure air and plenty of exercise, and not of antiseptics or even ordinary hygiene. The quick recovery and return to their usual duties of Indian parturients also suggest the possibility that we sometimes make invalids of our obstetric patients unnecessarily. Accidents occasionally occur among Indian parturients, just as they do among animals, nature's work being sometimes far from perfect. This means death to the mother or child, or both, unless an intelligence beyond that of the savage can be summoned to avert it.

VII. *Pelvic Disease*.—That pelvic disease has not been treated among Indians does not prove that it does not exist. Those diseases which result from infection, deformity, maldevelopment and faults of circulation probably exist, but they will go untreated and more or less unheeded until the suffering caused by them becomes keener and confidence in educated physicians stronger. The malignant diseases of the reproductive organs are almost unknown among Indians. This shows that neither privation, nor hard work, nor exposure, nor giving birth to many children, necessarily results in the neoplasms which so afflict civilized women.

VIII. *Venereal Disease*.—Both local and constitutional forms of venereal disease abound among Indian women. The frequency of syphilis, coupled with the great mortality among in-

fant, and the great prevalence of glandular and pulmonary disease among many of those who survive infancy, are evidences of the inroads which venereal disease has made upon Indian vitality.

Finally, Indian women in the savage state undergo less physical suffering in connection with the reproductive apparatus than do civilized women. They menstruate, bear children and pass the menopause with the minimum of discomfort, as a rule. This is due to three causes: (1) natural or racial insensitiveness compared with the far more sensitive Caucasian; (2) abundance of exercise; (3) life in the open air. Civilized life, with its complex conditions, will always present obstacles to the performance of the functions peculiar to women with the same ease with which they are experienced by savages, and when Indian women exchange the savage for the civilized state they must necessarily adopt also some of the ills which are inseparable from the latter.

THIRD DAY—MORNING SESSION.

THE TREATMENT OF EXTRAUTERINE PREGNANCY:

By Prof. F. WINCKEL, of Munich. The main object of the paper was to emphasize the value of the method of injecting morphine into the amniotic sac for the purpose of killing the fœtus, in selected cases. In the great desire to do laparotomy, or destroy the fœtus by electricity, this valuable treatment had been largely overlooked. In the early months of extrauterine pregnancy the writer believed the fœtus could be easily destroyed by the morphine injections,

he having accomplished this end in two cases, the patients recovering.

THE IMMEDIATE CLOSURE OF LACERATION OF THE CERVIX :

By Dr. CORNELIUS KOLLOCK, of Cheraw, S. C. The writer's claims for the primary operation were, the instant relief afforded the patient, complete and rapid union of the freshly torn parts, saving of much mental and physical suffering; the use of the knife is avoided and the patient saved the shock and loss of blood from that source; the parts are more easily brought into coaptation than in the secondary operation, where the presence of cicatricial tissue renders this process difficult. Three successful cases of primary operation were mentioned.

THE PREVENTIVE AND CONSERVATIVE TREATMENT OF PELVIC TUMORS :

By Dr. EUGENE GEHRUNG, of St. Louis. The writer believed the growth of pelvic tumors was due to pressure from surrounding organs, causing interference of circulation and consequent congestion; the ovaries and uterus were subject to the same conditions.

The breaking up of adhesions by manual manipulation, externally, relieving the organs or tumor from pressure and strangulation, rectifying displacements by a scientific use of the pessary, would, he believed, in many cases cause the tumors to lose their vitality and cease to grow. Three cases were cited in support of these conclusions.

THE ANATOMICAL RELATIONS OF THE LACERATED PERINÆUM TO THE MECHANICS OF ITS CAUSATION :

By Dr. EDWARD REYNOLDS, of Bos-

ton. The writer gave a description of the shape and position of various vaginal and perineal tears, with details of their anatomical relations, the most common of which was substantially that described by Emmet, in 1883. He divided the tissues of the pelvic floor into two layers, superior and inferior, and by a careful analysis of their functions attempted to explain the determination of the various rents. To repair lacerations the sutures must be inserted in such a manner as to cause the torn edges of the lower layer to be drawn upward, and those of the upper layer to be drawn downward, to meet at the central point, where they were originally parted.

THE ELECTRICAL TREATMENT OF UTERINE FIBROIDS IN ENGLAND :

By Dr. GEO. KEITH, of Brooklyn. The paper consisted of a resumé of the work of the Keiths and other English surgeons, and a comparison between the results of the electrical treatment of fibroids and those obtained by hysterectomy. The writer was in favor of treating these tumors by electricity, except where there was suppuration, or the tumors were surrounded by free fluid. He gave in detail Prof. Apostli's method of using electricity.

LAPAROTOMY IN TRENDELENBURG'S POSTURE, WITH EXHIBITION OF A NEW OPERATING TABLE :

By Dr. CLEMENT CLEVELAND, of New York. This posture was described, and its many advantages emphasized. The body is inclined, with the head down, the weight of the body resting on the shoulders, the thighs and knees flexed on the body to secure relaxation of the abdominal

muscles. The chief advantage of the position is the dropping out of the way of the intestines toward the diaphragm, leaving the abdominal and pelvic viscera in plain view and easy of manipulation; much time is also saved.

The table exhibited by the writer was a modification of the Edebohl table, applicable for this posture, or, when brought to a horizontal position, for general gynæcological work.

DIABETES MELLITUS GRAVIDARUM:

By HENRY D. FRY, M.D., Washington, D. C. Gravidity increases the susceptibility of woman to certain diseases, and often changes the type of the malady by accentuating its dangers. The physiological changes in the blood, in the secretions and excretions, and the nervous and physical alterations in normal pregnancy, prepare new soil for the development and growth of pathological conditions.

The significance of changes in the urinary excretion is generally limited to considerations of the danger of convulsions. The presence of albumen and casts, and low specific gravity and deficient elimination of solid ingredients, are the changes which warrant such conclusions. Attention, at present, is claimed by the importance of different alterations; increased flow of urine, increased specific gravity, and the presence of sugar. Augmented flow of urine, with consequent low specific gravity, is considered a normal condition of pregnancy. Also, the presence of sugar in small quantity is found in one-half of all pregnant women. All nursing and lying-in women have glycosuria, and the proportion of sugar in the urine bears some relation

to the activity of the mammary glands. Diabetes insipidus has been observed during, and apparently dependent upon, pregnancy. Conjugal diabetes is described as a form of the disease affecting husband and wife simultaneously.

Physiological glycosuria, and different forms of diabetes must not be confounded with diabetes mellitus gravidarum. Under the title Puerperal Diabetes, Matthews Duncan reported several cases of his own and as many others as he was able to collect. The report comprises the histories of twenty-two pregnancies in fifteen women, and a study of these contributes mainly to the deductions formed in the present article.

The following case came under the observation of the writer:

First pregnancy and labor normal. Diabetes developed about fifth month of second pregnancy. Death of child at seventh month. Premature labor. Death of mother on fifth day.

Mrs. P., æt. 31 years, secundipara, with good family history, gave birth to her first child after a normal pregnancy and labor. Subsequently her health remained good, and in June, 1890, she became pregnant a second time. In the early part of October, she first noticed she was troubled with thirst and frequent desire to pass urine. She complained of being easily fatigued and had difficulty in walking.

Patient came under the writer's observation on November 18th, 1890. A specimen of urine, which had been requested for examination, was sent on November 23d. Seventy-four ounces had been passed in the twenty-four hours, with a specific gravity of 1045. There were no casts or al-

bumen, but it contained 9 per cent. (nearly one-half a pound) of sugar. Dietetic and medicinal treatment was prescribed.

The average daily excretion of urine and proportion of sugar contained, from November 24th to December 10th, inclusive, were ascertained to be as follows: urine 79 ounces; sugar, 5 per cent. The patient was weaker, thinner, and complained of dyspnœa on slight exertion. A bright, circumscribed spot was generally visible upon one or other cheek, usually the left.

December 11th. Patient passed a miserable night, and her husband, being alarmed about her condition, sent for me about 9 A.M. Pulse rapid and feeble; breathing short and speech jerky. The foetal heart-sounds could not be heard. Examination revealed the head presenting, cervix effaced and os dilated as large as a silver dollar. Labor pains had not been felt. Her condition was so serious that an appointment was made to meet Dr. Busey at 2 o'clock in the afternoon to consider the advisability of emptying the uterus.

At 11 o'clock an urgent summons was sent to return to the house, and, on arrival, the head of the infant was born. The birth had been painless, and the only sign to attract attention to the fact that labor was progressing was the discharge of liquor amnii about one hour before its termination. The infant, a male, was small but well nourished. It had evidently been dead some days, as the epidermis peeled off easily. The mother was very prostrated; pulse 150 and feeble, and extremities cold. She was wrapped in blankets, hot applications applied, strophanthus and whiskey given by

mouth, and, later, hypodermatic injections of whiskey and digitalis. An injection of morphia and atropia was also administered hypodermatically.

Patient slept some, complained of shortness of breath, but felt some relief. At 2 o'clock Dr. Busey saw the case in consultation and continued to meet and advise with me daily. Stimulants and warm applications were continued, and two and one-half grains of ergot extract in suppository given every four hours. During the day, the pulse was from 120 to 130, axillary temperature 98.2°, and surface cool. Thirst a prominent symptom; urine passed in large quantity; breathing less labored; lochia normal; mind dull but clear when aroused.

During succeeding days, the pulse remained weak and rapid, abdomen was tympanitic, and mental condition that of low typhoid type.

December 15th. Condition weaker; respirations deep and labored, but not accelerated; eyes retracted; clonic contraction of muscles of chest and arms. At 10 A.M. she was unconscious, almost pulseless, and later in the day died.

FREQUENCY.

Judged by the paucity of literature on the subject, we might infer that diabetes occurring during the child-bearing period is an extremely rare complication. We believe, however, the disease is not so uncommon as it is unrecognized. It may develop during pregnancy, the latter exercising a causal influence, or pregnancy may occur in a woman already diabetic. That peculiar condition of a pregnant woman which is responsible for the development of the disease in one case is likewise the factor in

adding malignancy to a pre-existing mild attack in the other.

In explanation of the presumable infrequency of the occurrence of pregnancy in diabetic women, it is asserted that the disease exercises a direct influence upon the female generative functions, producing diminution of sexual energy. Local diseases, inflammatory in character, are common in diabetic women and may lead to sterility. That the complication may occur more often than we are led to suppose and be overlooked is evident from the histories of the cases collected by Matthews Duncan.

In the first case met with by that observer, the urine was not examined for sugar until after labor, although well-marked symptoms of diabetes were present and her appearance created the gravest alarm. There were marked thirst and polyuria, but it was not until the day after labor that the urine was examined for sugar, and its presence revealed the nature of the malady. Death occurred two days later. In many other reported cases the disease was unrecognized, and in some of them during repeated pregnancies, though well-defined symptoms pointed to the probable existence of glycosuria.

In W. L. Reid's case the symptoms of the disease were well marked during pregnancy, and after labor the thirst became so "frightful" that she crept on her hands and knees to the water bottle. Two months afterward her emaciation and weakness led to the suspicion she was suffering from diabetes. Examination showed that she was passing twenty-two ounces of sugar in the twenty-four hours.

DIAGNOSIS.

To aid in recognizing the affection,

glycosuria should be suspected and the urine examined for sugar in all cases of pregnancy presenting obscure symptoms, weakness, emaciation, short breathing, etc. It is a good rule to suspect diabetes whenever a dead child is born without apparent cause. Syphilitic poison is no more certain to destroy foetal life than the diabetic condition. The subjective symptoms of the affection are of little diagnostic value, because they seldom attract the attention that their importance demands. When a woman is suffering from diabetes under other circumstances she consults a physician about her ill-health, but when occurring during pregnancy the symptoms are made light of, attributed to other causes, or considered incidental to her condition. In my case the patient did not complain of any symptom that led to a suspicion of diabetes, although the disease had undoubtedly existed a month before she came under observation. Her excuse was that the diuresis was attributed to the thirst, and the thirst to the warm weather. The importance of the symptoms in connection with her ill-health was not suspected.

In several of the reported cases, trouble of vision led to the detection of glycosuria. From the evidence given it is more than likely that diabetes is often unrecognized during pregnancy. Some fatal cases are probably classed among deaths due to unaccountable causes, to shock, embolism, the entrance of air into the veins, etc.

CLINICAL HISTORY.

Before taking up for consideration the effect of diabetes upon the pregnant, parturient and puerperal woman, attention is again called to the influ-

ence of the child-bearing process upon the disease.

When a predisposition exists to diabetes, pregnancy is liable to act as an exciting cause. It may develop in the beginning of gestation or be deferred until later, usually about the period of quickening. When pre-existing the type of the malady is changed for the worse. The disease is less responsive to treatment than under other circumstances.

If, however, it should not progress to a fatal termination before confinement, some hope may be entertained that a favorable change will take place at the end of pregnancy. Often the improvement is marked, and the disease seems held in abeyance until a succeeding pregnancy or some cause starts it up with renewed activity.

Cases are reported of disappearance of sugar from the urine after labor and, with it, of diabetic symptoms. Some remained in good health, while others suffered relapses in a few months or in subsequent pregnancies.

The aggravation of diabetes by pregnancy sometimes causes the disease to assume an acute form. In the case reported by myself, the duration of the disease, from the appearance of the symptoms to the fatal termination, was only ten weeks.

Other cases reported present well-defined attacks of the intermittent type. Authorities contest the existence of an intermittent diabetes, and attribute cases reported as such either to the result of malarial poisoning, or to a benign type of the disease in which sugar disappears temporarily and reappears on slight provocation. The case mentioned by Rennewitz is stated to be unique in this respect.

Other cases equally intermittent in type are reported, which confirm the statement that diabetes occurring in the child-bearing woman may assume an intermittent form, notwithstanding the admitted rarity of that type of the disease under other circumstances.

The effect of diabetes on pregnancy, labor and the puerperium.—In studying this part of the subject, one is immediately impressed with the pernicious influence exerted by the disease over the function of child-bearing.

Pregnancy is frequently interrupted by miscarriage or the premature birth of a dead child. The death of the fœtus generally occurs about the seventh month, but it may not be expelled for one or two months afterward. Excessive development of the child is mentioned in a number of cases. It is impossible to state the exact proportion of pregnancies that end in miscarriage and premature labor because of the incomplete information furnished in the reported cases.

Seventeen women who were affected with diabetes at some time of their child-bearing period gave a total number of 79 pregnancies. The result was not mentioned in 37 pregnancies. Of the remaining 42 pregnancies, only 20 (48 per cent.) terminated naturally. In two of these the children were feeble and died soon afterward; 9, or 21 per cent., of the pregnancies ended in miscarriage; and 13, or 30 per cent., in premature death of the child.

While demonstrating the prejudicial effect of diabetes upon pregnancy, these figures do not represent the exact state of the case. Some of the pregnancies included in the above list occurred in women before they

became diabetic; and, on the other hand, it is likely that the result in most of the thirty-seven cases not mentioned was normal.

Labor at term, in a diabetic woman, does not appear to deviate from the normal except when influenced by the large size of the child and excessive quantity of liquor amnii.

Complications arising from a distended bladder are liable to occur during labor and the puerperium.

In cases which change for the better after confinement, the symptoms improve in a few days. Sugar disappears from the urine, except the small amount considered physiological, after the first week—sometimes almost immediately. Cases recovering after labor should be carefully watched to prevent a relapse of the disease.

The symptoms after labor in severe cases after diabetes, especially when the child is dead, are those of exhaustion and threatened collapse. The pulse is feeble and varies from 120 to 150 or more. The surface and extremities are cold. Temperature normal or subnormal until approach of fatal termination, when it rises to 100° or 101°. The labored respiration is generally relieved after the birth of the child. The mental condition is usually blunted; patient talks incoherently and is restless. Death is generally preceded by coma from a few hours to several days.

PROGNOSIS.

The unfavorable prognosis of diabetes is accentuated by the coexistence of pregnancy. Mild cases assume acute forms, and acute cases progress rapidly to a fatal termination. To this general statement exceptions

are met, and cases remain mild and extend through repeated gestations.

When the disease exists to an extent sufficient to cause the death of the child, the gravest apprehension must be felt for the safety of the mother. Of ten such cases, nine died within eight months after labor, and only one survived with persistent diabetes. The birth of a healthy child at term, in a diabetic woman, indicates that the disease has not reached a critical stage. In such cases, therefore, a favorable prognosis may be given so far as immediate danger is concerned. Intercurrent diseases during pregnancy or puerperium possess additional gravity.

The great danger to the child's life has already been stated. Over half of the pregnancies ended in miscarriage or premature death of the child.

An important question comes up for consideration: should a woman marry who is suffering from diabetes? From the evidence that has preceded the reply must be in the negative. The disease under favorable conditions, and with proper medicinal and dietetic treatment, holds out encouragement of a comfortable existence for several years at least. The intervention of pregnancy would remove any favorable conditions that were present and jeopardize the expectancy of a life none too good at best. It is even questionable whether marriage is advisable in a woman who has a strong hereditary predisposition to diabetes.

TREATMENT.

The obstetrical treatment of this subject pertains to a consideration of the advisability of the induction of premature labor. The question is

entirely a new one, and we have not sufficient knowledge at hand to decide it. In the milder cases of the disease, when there is reason to think that pregnancy will terminate naturally, interference is not justifiable. But when the symptoms are acute, rapid emaciation and exhaustion of the mother threatening the existence of the child, prompt action is demanded in the interests of both. The period at which the child usually succumbs is about the seventh month, therefore labor must be induced at the earliest period of viability.

The following papers were read by title :

"Vaginal Hysterectomy, by Morcellement : Technique and Indications for Operation," by Dr. Samuel Pozzi, of Paris.

"The Influence of Season on Recurrent Pelvic Inflammations," by Dr. Frank P. Foster, of New York.

"Diffuse Adenoma of the Uterine Body," by Dr. James R. Chadwick, of Boston, Mass.

"Ureteritis in the Female," by Dr. Matthew D. Mann, of Buffalo, N. Y.

"The Surgical Treatment of Retroversion and Prolapse of the Uterus," by Dr. Paul F. Mundé, of New York.

"An Argument against the Stempessary, or So-called Drain-tube," by Dr. Egbert H. Grandin, of New York.

The following officers were elected for the ensuing year :

President, Dr. John Byrne, of Brooklyn ; Vice-Presidents, Dr. R. B. Maury, of Memphis, and Dr. Cornelius Kollock ; Secretary, Dr. Henry C. Coe, of New York ; Treasurer, Dr. Matthew D. Mann, of Buffalo ; Council, Drs. J. W. Chadwick, Boston ; H. T. Hanks, N. Y. ; S. C. Gordon, Portland, Me. ; J. E. Janvrin, N. Y.

The following new fellows were elected :

Drs. Geo. M. Tuttle, New York ; Wm. E. Mosely, Baltimore ; Florian Krug, New York ; George Edebohls, New York ; Chas. Noble, Philadelphia ; Edward Davis, Philadelphia ; Virgil Haddon, Atlanta ; Charles Strong, Boston ; B. C. Hirst, Philadelphia ; A. McLaren, St. Paul ; F. H. Martin, Chicago ; P. H. Ingalls, Hartford. Honorary members : Dr. Samuel Pozzi, Paris ; Prof. Olhausen, Berlin ; Prof. Leopold, Dresden.

The meeting then adjourned, to meet in Brooklyn the third Tuesday in September, 1892.

SOCIETY PROCEEDINGS.

American Association of Obstetricians and Gynæcologists.

Fourth annual meeting, held September 17, 1891. The meeting was called to order by President Wright, in a few well-chosen words. Dr. Morris, on behalf of the Committee of Arrangements, welcomed the society to New York. Dr. Rohé, of Baltimore, responded in behalf of the society.

The following is a brief abstract of the scientific proceedings :

Dr. W. J. ASDALE, of Pittsburg, read a paper upon

REMOVAL OF THE KIDNEY IN DISEASE,
WITH CASES.

ABSTRACT.

Familiarity with all that has been done in the sphere of renal surgery must be had, and the details of many cases studied, before this formidable operation can be made safe. Therefore, all facts bearing upon this subject will be of value to the surgical profession.

The following points were brought out by the histories of a number of cases and operations :

Malignant disease is often insidious in its attack ; pain may be absent or slight ; early copious hæmorrhages are suggestive of structural change of malignant character. The choice of method of operation will be governed as much by necessity as preference. The lateral abdominal method of incision permits the removal of large solid growths from the renal site

with ease. In all cases it is of importance to possess the advantage of direct palpation of the other kidney before nephrectomy ; this the operation by primary-anterior incision makes easy. The antero-lateral incision causes the least injury to the peritonæum. Drainage can be most efficiently applied after the lateral abdominal operation. Finally, the importance of early diagnosis and the uselessness of late operation in malignant disease are clear.

The next paper was on "Another Method of Palpation of the Kidney," by Dr. Robert T. Morris, New York.

Dr. L. S. McMURTRY : Mr. President, before the discussion of these interesting papers begins, I wish to make a motion. I see present with us as guests this morning, Dr. Albert L. Gihon, U. S. Navy ; Dr. Horace T. Hanks, New York city ; Dr. E. W. Cushing, of Boston ; Dr. D. V. Still, Johnstown, N. Y. ; Dr. James G. Spencer, Watertown, N. Y. ; Dr. M. Rosenwasser, Cleveland, Ohio, and I move that these gentlemen be invited to take part in the discussion. Carried.

DISCUSSION OF BOTH PAPERS.

Dr. A. VANDER VEER, Albany : In relation to the paper just presented by Dr. Asdale, one fact is offered us especially, that in the aggregation of experience we all learn some good points. Malignant disease of itself

is always a dangerous condition for us to attack, and when advanced as in the two cases reported, the danger is still greater. I believe that had he attempted the lumbar operation he would have failed in removing the diseased mass. Drainage might perhaps have been secured in the first case through the lumbar region. I am under the impression that chloroform is the safest anæsthetic to use in surgical kidney. Let us operate as early as possible in malignant disease. We should always be prepared in these operations for renal hæmorrhage. If we can separate the renal vein from other vessels, I always feel safer in tying the vein separately.

Dr. C. A. L. REED, Cincinnati: We all recognize the treacherous friability of the renal vein, and it occurred to me that if this vessel were liable to be cut by a tight ligature we would be much more apt to avoid this unhappy and almost necessarily fatal accident by putting around this vessel the protecting influence of its neighboring structures. This I have always done, and so far I have not been embarrassed with secondary hæmorrhage. I think we are prone to overestimate the amount of force that is required to control hæmorrhage from even the larger arteries, as, for instance, the renal.

Dr. E. E. MONTGOMERY, Philadelphia: I wish to express my appreciation as to the points made by Dr. Morris in regard to diagnosis of disease of the kidney, and position, and so on. In regard to the cases reported by Dr. Asdale, it has seemed to me that it is preferable to content ourselves first with the drainage of the kidney, and subsequently to remove

it if the conditions unerringly seem to demand it.

Dr. J. F. W. ROSS, Toronto: For some time I have always been in the habit of making an examination of each kidney in women. I have more than once found women suffering from a too movable condition of the kidney who have been treated previously for some uterine disease or some bladder disease. I have adopted the method that Dr. Morris speaks of, the patient lying on the side, and the knees drawn about half-way up. I always get someone to press against the back of the patient, or get the patient to lie against me, to keep her from falling completely on the back. In this way we can feel the kidney in nearly every case. I have never yet performed the operation of nephrectomy for malignant disease. I think that unless these cases are brought under the notice of the surgeon early, the operation is almost always fatal.

Dr. J. H. KELLOGG, Battle Creek: It seems to me the question which should be raised in this discussion is whether it is better to remove the kidney or to perform the operation of nephrotomy. I heard a statement of Dr. Tait's a number of years ago. He said to me that he had long ago abandoned the operation of removing the kidney. I was interested in Dr. Morris' paper about palpating the kidney. I have studied this question very carefully, and I have records of some five or six hundred cases of that kind. I made it a practice to examine the position of the kidneys and all abdominal organs in every case of pelvic disease of women. I have been surprised to find in a very

large proportion of cases that the right kidney especially is prolapsed and movable. I find that in thirty per cent. of all cases in which there is displacement of the pelvic organs there is also displacement of the kidneys.

Dr. J. H. CARSTENS, Detroit: I was very much interested in the diagnostic point made by Dr. Morris, and also the instructive paper of Dr. Asdale. In all cases of operation for the disease of the kidney there is great danger in using ether. In all cases it is advisable to use chloroform. Even chloroform will produce congestion of the kidney, but not to the extent that ether does.

Dr. H. T. MACHELL, Toronto: I would like to ask Dr. Morris whether there are any means of recognizing the kidney quickly and certainly after the abdomen is opened.

Dr. ASDALE (closing the discussion): I thank the association for the kind reception it has given my very fragmentary paper. The method of ligation of the pedicle suggested by Dr. Reed I think is a very good one. I believe chloroform is the best anæsthetic for use in nephrectomy.

Dr. MORRIS (closing the discussion): In reply to Dr. Machell's inquiry I would state that in one case where the conditions were so changed that it was impossible to determine whether I had liver or kidney, I found the aorta, then found the renal artery, and traced that, and determined from the relative position of the renal artery that the kidney was beneath this mass.

Dr. LLEWELLYN ELIOT, of Washington, read a paper, entitled

IS A CHILD VIABLE AT SIX AND A HALF MONTHS?

ABSTRACT.

The French law excludes the possibility of the viability of a child born before the sixth month. This is unjust, for cases are recorded where children born within that time have lived for many years. A table, comprising cases in which the period of utero-gestation extended from 120 days to the termination of the seventh month, was presented. Dr. Eliot related the history of two cases of early viability—one at six months and eleven days, and one at seven months and one day.

DISCUSSION.

Dr. H. O. MARCY, Boston: The question we have had presented seems to be one of special interest. It not only teaches us how long a child can live, but what we should do to make it live. I have had a little experience bearing upon this subject. A woman, of German parentage, was delivered of a child about the sixth month, weighing two and a half pounds. It was quite feeble. I at once put the child in an incubator, wrapped in cotton. It was kept for four or five weeks, at the temperature of the body, in the incubator. I have seen the child within ten days, and it is now a healthy, grown boy of 6 or 7 years.

Dr. J. H. CARSTENS, Detroit: In the present state of our knowledge, it is clearly impossible to say how old a child is at birth, unless you have two absolute factors: that you have the woman menstruate at a certain date, and she has only had connection at one certain date. You cannot even

judge from the time the woman feels life, because that varies.

Dr. ELIOT (closing the discussion): The only way we can use an incubator is to have it supplied with a certain amount of moisture, as well as heat; if we have it too dry, we kill the child; if we have it too hot, we kill the child. The development of a child may be greatly affected by medicines taken by the mother.

Dr. E. E. MONTGOMERY, of Philadelphia, read a paper on

THE APPLICATION OF SACRAL RESECTION TO GYNÆCOLOGICAL WORK.

ABSTRACT.

He advocated this method of operation in all cases in which uterus and rectum were both involved with malignant disease, and in cases of uterine cancer, where the vagina was small, and the case complicated by disease of ovaries and tubes, with adhesions. In performing this operation the incision is made from the right sacro-iliac synchondrosis across the median line, a little beyond the apex of the coccyx. The latter bone is enucleated, and the muscles and ligaments are separated from the right side of the sacrum, and the right ala of the sacrum is cut off with chain-saw or bone-pliers. He does not prefer this operation to vaginal hysterectomy, where conditions are favorable for the latter. He reported two cases in which he had done the operation.

DISCUSSION.

Dr. C. A. L. REED, Cincinnati: This operation attracted my attention when the first publication of it appeared, I think, in 1885. It appears to be more formidable than, perhaps, it really is. I can readily understand

how, in an effort to treat malignant disease involving the middle segment of the rectum, this operation would be demanded and would be justifiable. Any conception that I can arrive at theoretically, however, of this operation does not enable me to comprehend its especial utility in total extirpation of the uterus for malignant disease. There is one question which, I think, cannot be answered as yet from any ascertained results, and that is with reference to the remote influence of this operation. What is the condition of our patient with regard to the suprainposed viscera following the operation, after a considerable length of time?

Dr. H. O. MARCY, Boston: I want to rise to a point of emphasis. I have lost two patients where I think the result might have been entirely different if I had done colotomy first; this was in cancer of the rectum. When we recollect that the intestine is very fully distended with gases and fæces, the pressure upon our sutures is something enormous; and if I again operate in this condition of things, I shall advise the doing of primary colotomy. That gives us the all-important factor of surgical rest of the tissues, with a far better prospect of success.

Dr. H. T. HANKS, New York: It seems to me that this operation can be recommended in most cases of chronic pelvic abscess, where a rupture has taken place into either the vagina or rectum, and where the tissue underneath the broad ligament is honeycombed. It is a difficult matter to cut through the abdominal wall into the true pelvis, and find out the exact condition.

Dr. W. H. WATHEN, Louisville: I must congratulate Dr. Montgomery on his courage, his tact, his excellent technique in doing the operations that he has just reported. Dr. Montgomery's experience has demonstrated the importance of giving an exit to the faecal matter and gases by colotomy before the radical operation. I contend that the operation of vaginal hysterectomy for malignant disease is not a justifiable operation, unless we are enabled to remove every portion of the disease, and that in cases where there is no malignant infiltration of the tissues, the uterus, in those cases, can be removed per vagina.

Dr. A. VANDER VEER, Albany: I would not be willing to abandon vaginal hysterectomy for removal of the uterus and ovaries. I believe this operation is the operation for the removal of a cancerous rectum high up. In the next case, where the disease presents three or four inches up the pelvis, this is the operation I shall do.

Dr. VANCE, Louisville: It strikes me that the performance of primary colotomy would bring about a difficulty, from the fact that if a good deal of the duct were to be removed, if it were tied, anchored at the point of ordinary colotomy, we would have difficulty in bringing it down to get approximation. It strikes me that it is a pretty ugly operation, and, outside of very skilled hands, the patient would be in very great jeopardy.

Dr. E. E. MONTGOMERY, Philadelphia, closing: Mr. President, I am very grateful, indeed, to the fellows and guests for their very kind consideration of this new subject. I can appreciate the prejudice every one has to the introduction and to the per-

formance of an operation outside of the usual order. We accustom ourselves to reaching organs and to doing things in certain ways, and as soon as one attempts to get out of the usual order and get into a new groove, a new rut, we think he is, as the theologians would say, not orthodox. This is very much the way we get into in the medical line. We object to things simply because they do not strike us favorably from the method and manner in which we have been performing operations before. But when you consider the fact that if you wish to reach the uterus from any portion of the body, the most direct route to the uterus, the nearest point to the uterus, is through the backbone. When you attempt to reach the uterus from above, you come down upon its fundus; you have the uterus down in a small, narrow cavity, into which you have difficulty in seeing, and where you have difficulty in reaching it, on account of the rigidity of the abdominal walls, and that you can make but a small opening, while, when you make your incision posteriorly, resecting the sacrum, cutting off the sciatic ligaments, you have a good opening into which you can see, and have the uterus at close touch. By this method you reach the vessels and ligate them in sight. You can displace the uterus and see every step in the procedure, which cannot be done in any other method of operation. Now you will notice that I distinctly said in my paper that I did not favor the removal of the uterus by this method when it could readily be done through the vagina; that it was the exceptional cases in which I would recommend the resection of the sacrum to reach

the uterus. The exceptional cases were those in which there had been malignant disease of the uterus secondary to diseased conditions of the tubes and ovaries. We had, in the second case I have given, a woman who, as the result of indiscretions in early life, was suffering from tubal and ovarian disease. These tubes and ovaries were situated posterior to the uterus, filling up the posterior cul de sac. You recognize that to operate on this patient, and to leave portions of this tubal structure remaining, you endanger the patient by liability of developing secondary peritonitis. You would have, through a narrow vagina, which had never been dilated by the passage of a child, necessarily difficulty in reaching the uterus, in ligating the vessels so high up and so as to remove every vestige of the tube and ovary. For this reason, then, in looking over this case and studying it carefully, I decided to take the sacral resection as the preferable method of procedure. Now, with regard to the objection that has been made as to the removal of the portion of the sacrum and the coccyx, that you are removing a portion of the structure of the pelvis, the support of the pelvis, the lower support—remember, when the patient is in the erect position the sacrum is on the upper plane of the pelvis, the pressure comes on the pubes, and in the line of the vagina, not on the coccyx and sacrum. Remember, also, that although the ligaments are cut through in your suturing the parts, you bring back and restore, to a certain degree, the ligaments and muscles. You have a muscular floor left, strengthened by the cicatrix, which is left at the place of union, although

there was, indeed, but a small portion of it that was noticeable. There were, of course, contraction and deepening of the furrow posteriorly above the anus where the portion of bone was removed. With regard to the operation itself, when applied to the rectum, there is no question, in those cases in which the lower portion of the rectum is healthy, that this is the operation above all others. It is the operation, for the reason that we leave the sphincter. We must bring the rectum down and re-establish the gut, and have a sphincter left by which the patient has complete and perfect control. How much preferable to a colotomy! Even with the best-contrived pad, you are at times unable to keep the patient from being soiled. Where it is necessary to amputate the rectum, the operation, by removing the coccyx and a portion of the sacrum, bringing the gut up at the lower portion of the sacrum and making an artificial anus at this point, we give the patient a condition where a pad can be better worn, and you keep the parts from being soiled a great deal better, and you have also the patient feeling that the discharge can be better taken care of; that the individual has not to assume an unnatural position in order to evacuate the bowels. The operation is one where, as Dr. Hanks has said, I cannot see that preliminary colotomy would be objectionable even when a good portion of the rectum had to be removed, as in those individual cases, for the reason that as the rectum has to be dragged down, you would drag down the colon and increase the amount of the gut that is situated below in the abdomen, so that you would have it to work on subsequently.

I fully agree with Dr. Marcy, as I mentioned already in the paper, that the preliminary colotomy in such a case is the desirable thing to do, as, by having the bowels completely unloaded, by relieving your patient from the discomfort and poisonous effect of having fæcal matter in the intestine, she is better able to stand the operation. Dr. Hanks has well said that in many of these cases of pelvic abscess, take the cases where the ovaries and tubes are matted down in the posterior cul de sac, then the peritoneal cavity above is shut off, in which the drainage from above must be necessarily through the portion of the cavity already shut off. Nature has kept the secretions away from the large cavity. You get rid of the pus without the necessity of poisoning the entire cavity of the peritonæum by it. In many cases you are better able to separate the adhesions and remove the accumulated masses and drain from the under-surface of a sac, and to make sure that your drainage is perfect and thorough, than you would be through the abdomen.

Now, regarding the other matters, as I say, I can readily appreciate why gentlemen should hesitate to accept a method of this kind, so different from ordinary operations, and I myself should not prefer the operation in those cases in which the operation can be readily performed through the vagina. It is only in the cases in which this operation seems preferable that I would suggest the removal of a portion of the bone in order to complete the operation.

Dr. J. F. W. Ross, of Toronto, read a paper on

HOW SHOULD WE PROCEED WHEN ABDOMINAL TUMORS ARE COMPLICATED BY PREGNANCY?

ABSTRACT.

He considered that opening an abdomen during the existence of concealed pregnancy was justifiable. He reported cases of ovarian tumor and fibroid tumor of the uterus, and requested reports from members of the association for the sake of building up a foundation to establish a few fixed rules for future guidance. He considered only ovarian and myomatous tumors. He discussed the following methods of treatment: allowing the pregnancy to go to full term; puncture of the cyst; induction of premature labor; ovariectomy; ovariectomy and emptying the uterus of its contents; ovariectomy and abdominal hysterectomy. The writer favored early ovariectomy, except in certain favorable cases in which it is better to puncture the cyst.

In myomatous tumors the treatment should consist of either induction of premature labor, early abdominal hysterectomy, or late hysterectomy or Cæsarean section. He favored the following tentative measures: enucleation of the cervical tumor, to permit completion of labor; enucleation of a sloughing tumor following labor; abdominal hysterectomy for a sloughing tumor or uncontrollable hæmorrhage following labor, or from septic infection from retention of discharges in the non-contractile uterus, or abdominal hysterectomy or Cæsarean section to end a labor that will require operative interference.

DISCUSSION.

Dr. H. T. HANKS, New York: The conclusions Dr. Ross has arrived at I agree in as a rule. I think we must judge each case on its own merits. We should not operate unless our patient can have proper care afterward. We not only want to consider the case of the patient, but consider the surroundings. When you know that you have got a unilocular cyst, and can tap and remove the fluid, and the patient can go on to term, or at least to eight and a half months, you are justified in doing it. If you have pregnancy complicated with fibroid tumors the case is different. They grow very rapidly from the first month up to the fifth or sixth month, but do not from the seventh to the ninth month. If the uterus is movable and can be pushed up easily, and the tumor is the size of your fist, and you can push the cervix above the brim, and you have got two-thirds of the cervical tissue healthy, you are justified in delaying. If your tumor is above the middle zone, it will not do much harm. There is always a little danger of suppuration after delivery at term, but with our antiseptic solutions we ought to meet the emergencies as they come.

Dr. A. A. VANDER VEER, Albany: The difficulty of diagnosis in a case of fibroid of the uterus, or ovarian tumor, is one of the problems of surgery. In making the diagnosis we have very little that helps us in the history given to us by the patient. A woman who has a uterine fibroid will endeavor to make you believe that she is not pregnant, because she believes that there is a great deal of danger ahead for her. In most cases

where a patient has uterine fibroid and becomes pregnant, the tumor will immediately take on a certain amount of growth. In some few cases it will go on into the sarcomatous change, and then even the Cæsarean section will not save your patient. In regard to ovarian tumors, coupled with pregnancy, little can be said in addition to what Dr. Ross has spoken of. In those cases we should tap and carry the patient along as far as possible to the full time. We can do abdominal section in cases of pregnancy with comparative safety, but the ovarian cyst, if it can be tapped, should be tapped.

Dr. L. S. McMURTRY, Louisville: So far as I am aware, the work of Dr. Vander Veer and Dr. Ross is the only attempt that has been made to formulate something like a systematic rule of action in regard to pregnancy complicated by abdominal tumors. It is often difficult to make the diagnosis of pregnancy when it is complicated with uterine myoma.

If a case presents at a time when the uterus is comparatively small, and the tumor lies broadly upon its side and above it, so that the line of demarcation between the ovarian cyst and the pregnant uterus is very plain and distinct, then we might consider the question of tapping and of other courses of action; but when the patients come far advanced in pregnancy, who probably have a slightly attenuated uterus, so that when you attempt to palpate the abdomen you find it difficult to locate the outline where the cyst ends and the uterus begins, it interferes with our opinions as to an exact course of action in such instances. The first case is one of a young lady in her first pregnancy.

I was called at the end of about the sixth month of pregnancy, and she was not aware that she had an ovarian tumor. I presume it had been growing for several years. Although an intelligent, refined and cultivated lady, she knew so little about such troubles that she believed that after passing the third septennial of life, about 21 or 22 years of age, it was natural for a woman to have the abdomen greatly enlarged, so she had not applied to any physician, and did not know that she had an ovarian tumor. The diagnosis was made in the seventh month of pregnancy. She was delivered of a nine-and-a-half-pound male child, without any com-

plication of labor, after a very easy labor, and after two months I operated and removed the tumor, a large moncyst, weighing about thirty-one pounds and a quarter. My friend, Dr. Vance, saw the case with me. There was a case in which a woman had an ovarian tumor complicating pregnancy, where there might be various courses adopted had it been seen earlier. She was kept under close observation, an examination of her urine made every week, to see the effects of pressure upon the kidneys. She went safely through with the pregnancy, then through ovariectomy, and is now perfectly restored to health.

[TO BE CONTINUED.]

American Public Health Association.

THE nineteenth annual meeting will be held at Kansas City, October 20th to the 24th, 1891. The local committee of arrangements announces that all the railway passenger associations in the county have granted a one and one-third fare rate for the round trip on the usual certificate plan, that is :

(1) Procure a certificate of attendance from the agent at the starting-point, by paying full fare to Kansas City.

(2) Have the certificate of attendance signed by the proper officer of

the Association at Kansas City. This certificate will then procure return ticket for one-third fare. All the leading hotels of Kansas City will give special rates to delegates. Arrangements are being perfected for an excursion into Kansas as one of the features of the entertainment of the Association. For any information as to the meeting, address

Dr. E. R. LEWIS, *Chairman,*

Or

Dr. JOSEPH SHARP, *Secretary,*
Local Committee of Arrangements,
Kansas City, Mo.

PHILADELPHIA OBSTETRICAL SOCIETY,

September 17, 1891.

PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

DR. J. M. BALDY:

RETROVERTED GRAVID UTERUS WITH RETENTION OF URINE.

During the past six months I have seen two cases of this rare but interesting trouble. The first one was reported to this society last spring by Dr. Bradford, and its history will be found in the Society Transactions. The second case came to me for treatment during the past summer. At the time she presented herself her condition was most pitiable. She was an Irishwoman, about 35 years of age, and was in her third or fourth pregnancy. The abdomen was distended to what appeared to be the seventh or eighth month, and it had all the external appearances of pregnancy. The posterior vaginal wall was protruding and formed a tense tumor. The cervix was so far above the pubic arch that it could not be reached. The fundus was posterior and filled the whole of the pelvis. The orifice of the urethra was retracted out of sight and could only be found with difficulty. Her urine was passing at short intervals, and she had considerable intermittent pain. She had all the symptoms of pregnancy. The local examination, conducted very carelessly, made me jump to the conclusion that I was dealing with a case of sacculated uterus, near term. I was led to this opinion as much by the characteristic appearance of the abdomen as anything else. A temporary diagnosis, without abdominal auscultation or palpation, was made for the benefit of some students present. To eliminate all bladder distention as a factor in the case, a Sim's speculum was introduced, the perinæum was retracted, and the urethra brought into view. A soft rubber catheter was introduced after considerable difficulty. It had been proposed to verify the snap diagnosis by auscultation and palpation of the abdomen after the bladder was emptied, but the catheter relieved us of any further steps in

that direction. Fully two gallons of urine were withdrawn, and the true condition of affairs was at once revealed. The abdominal distention almost entirely disappeared. The protruding vaginal wall became gradually less and less. The urethra came into sight, and the general puffiness and tenseness of all the vaginal and pelvic tissues were lost. A vaginal examination now disclosed an enlarged uterus, with the fundus posterior and the cervix in easy reach above the pubic arch. A few moments' bimanual manipulation restored the fundus to its proper position. During the next two weeks it was necessary to occasionally use the catheter to empty an overdistended bladder. The woman was about four months gone in pregnancy, which is now progressing in a perfectly normal manner. There has been no further bladder trouble.

Of course, the cause of the distention is clear. A retroverted uterus becomes impregnated; it gradually distends; the fundus fails to return into the abdominal cavity, and as the pelvis fills up the increasing pressure made by the cervix against the urethra causes a gradual distention of the bladder with retained urine, together with all the symptoms of that condition. The careless observer may readily make a mistake in the diagnosis, and infinite harm come of his mistake. The amount of distention which the bladder will permit of must surely be limited, and it was a matter of great surprise to me when I saw how much urine this individual one had held. A week more without relief having been obtained would surely have resulted in rupture. The diagnosis ought to be easily made. The use of the catheter will invariably clear up any obscurity which may exist, and it ought to be needless to insist that the catheter should always be used as a routine matter, where there is the slightest doubt in a diagnosis of an abdominal swelling. This seems like a very

simple matter, but in reality it is only too often neglected. I have known of a teacher of obstetrics allowing a bladder to overdistend in a puerpural woman to such an extent that she had repeated eclamptic seizures, which were relieved at once by the use of the catheter. This, of course, only happened from overconfidence in the nurse, who insisted that urine was being passed properly. But it emphasizes how easily an overdistended bladder may mislead even such a careful man as the one to whom I refer. It is not at all surprising that I have seen two of these cases in such a comparatively short time. The matter of surprise to me is that they do not occur oftener than they do. A retroverted uterus is quite common, and that many of them become impregnated is certain. Those which are bound down by adhesions almost invariably abort, as, in fact, do many of those which are free. But even thus there is a goodly number which must terminate like the one I have reported. The secret of the scant mention of them in our English literature must lie in the fact that such cases are not often put on record, and the proof of this is that Dr. Bradford could only find the record of three cases at the time he reported his own. The condition seems to me to warrant better treatment than this, and a general report of such cases may lead to much good.

DISCUSSION.

DR. B. F. BAER :

I recall a case like that of Dr. Baldy's which I saw with Dr. Formad years ago, shortly after we both graduated. Dr. Formad came to me in great glee, stating that he had an ovarian tumor for me, and which I was much pleased to hear. When I first saw the patient I was inclined, from the shape of the abdomen and the presence of the very marked fluctuation, to agree with him that it was an ovarian cyst. On examination I found a mass in the pelvis which appeared to be the retroverted pregnant uterus. It then flashed into my mind that our tumor might be a distended bladder, and without saying anything to Dr. Formad I introduced a catheter. Urine began to flow, and I remarked to the doctor that the tumor seemed to be disappearing. He said, "Have you tapped it?" I replied that I had. It was some time before he could be made to believe that I had not tapped the tumor. The quantity of urine

drawn off was very large, possibly as much as two gallons, the uterus was then easily replaced, and the gestation proceeded uninterruptedly. The mistake was the more readily made because the patient said she had been passing urine. I have seen several other cases of this kind, but that was the most remarkable.

DR. JOHN C. DAcOSTA :

I had a case similar to that of Dr. Baer's. A physician brought me a case of supposed ovarian cyst to be operated on. After examination I suggested to him that we put the catheter into the bladder, as I always do in the examination of a new case, stating that this might reduce the tumor. A tin basin was nearly filled with urine, and the ovarian cyst disappeared. Whether in this case the uterus was gravid or not I do not now remember.

DR. CHARLES F. NOBLE :

There is one point in connection with retroversion of the gravid uterus to which I wish to call attention. It is well known to you that the most common cause of retroverted or retroflected gravid uterus is that pregnancy occurs in a uterus already retroverted or retroflected. It not uncommonly happens that these uteri are fixed by adhesions. We well know that this is not an infrequent cause of abortion. When the uterus should rise out of the pelvis the adhesions prevent, and abortion follows. When one finds a retroverted gravid uterus, the question of adhesions, it seems to me, should be borne in mind, particularly as we may have a collection of fluid in one tube or ovary. I have seen one case of retroverted gravid uterus where there was, also a fibro-cystic tumor of the uterus and pyosalpinx on the right side. Of course such a series of complications is seldom to be found present, but I think that in not a few cases of retroverted gravid uterus we have adhesions to deal with, and this should be borne in mind in treatment.

I have seen a number of cases of retroverted gravid uteri where reposition was possible, in most cases simply by manual means in the knee-chest posture, although in two cases it was necessary to seize the cervix with a volsellum, drawing it downward and forward, and making pressure through the rectum on the fundus with the woman in the knee-

chest posture. In the case just referred to in which complications were present I tried to reposit the uterus without using violence, but desisted because I thought I should do harm, as the evidences of tubal trouble on the right side were very marked. I was fearful of setting up suppurative peritonitis.

DR. BARTON COOKE HIRST:

I have an interesting case to report which occurred in my practice not long ago. A woman came to me having had one child four years before, with the statement that her husband and herself would like to have a larger family, and wishing to know the reason why she did not again become pregnant. I found a retroverted but movable uterus. I put it in proper position and inserted a pessary and told her to report after the succeeding menstruation. She came back in six weeks, stating that she had passed one period and believed that she was pregnant, from her symptoms. She again returned at about the third month with the pregnant uterus retroverted over the pessary and with all the bladder symptoms of a pregnancy complicated by backward displacement of the womb. The catheter relieved the bladder, and the uterus was replaced and held in proper position, and she went on to normal delivery.

An important point in these cases is that the pressure is not on the urethra, but on the lower portion of the bladder. The condition is well shown in a colored drawing in the *Edinburgh Medical Journal* a year or two back. This accounts for the fact that these patients pass urine and that the true condition of distention of the upper part of the bladder is overlooked. The catheter might be introduced into the lower part of the bladder and not reach the larger collection higher up.

DR. WM. S. STEWART:

I have reported one case of pregnancy with retroflexion of the uterus, an account of which will be found in the transactions of the medical congress that met in Washington. The woman had for many years been my patient, but for some cause consulted other physicians, one being a female doctor, for what she considered some slight trouble. A fibroid tumor in the posterior wall of the uterus was diagnosed. This was confirmed by two or three others, among them one now dead, and one

on whose judgment we placed great value. The time for operation was fixed by one of these physicians. She was asked who her family physician was and referred to me. I examined her and detected what I considered a mistake in diagnosis. I could trace the enlarged fundus and the outline of the retroflected uterus perfectly. I advised her to write to the surgeon, postponing the operation, and to come back in a month. When she returned I felt better satisfied that I was right, and that she was pregnant instead of having a fibroid. I asked her to return in another month. When she returned she had a letter from the surgeon which I still have in my possession (as the only tangible evidence of the truth of her statement). The contents were as follows: "Will you please come to my office. I want to see how your tumor is getting along. I shall charge you nothing for the examination."

By this time she had felt life. When full term was reached, the uterus was still in a retroflected position. I then felt that I had done wrong in not calling those physicians together and stating that a mistake in diagnosis had been made. As a rule, about the fourth month the uterus will straighten itself, but in this case it did not do so; and instead of replacing it, as I should have done, I let her alone. When labor began I could scarcely reach the cervix (with my index finger), but found the os dilating. This was on a Thursday morning. Next day she continued to make slow progress. Saturday morning the family insisted that something must be done. I found the os thoroughly softened and dilatable. I had the patient assume the knee-chest posture, and then with the right hand in the vagina forced up the fundus, and with the left manipulated the abdomen. I succeeded in forcing the fundus up, but as the patient resumed her position on the left side I had to remove my hand from the abdomen, and with the first pain the uterus returned to its former position. I then repeated the manœuvre, having the patient turn on the right side after forcing the fundus up, and keeping my hand on the outside of the abdomen where I could support the fundus and at the same time break the membranes. The head engaged and came down promptly, and with two pains I delivered the patient *per vias naturalis*, the only case on record where a living child was delivered from a retroflected womb.

DR. J. M. BALDY:

The only point on which I should like to say anything is that referred to by Dr. Hirst, that the pressure in these cases is not on the urethra, but on the neck of the bladder. I remember distinctly that in catheterizing this woman there was a small jet of urine when I first passed the instrument, and that after it had been introduced one or two inches farther there was a free flow of urine. The cervix must certainly have pressed upon the bladder, for it was so high up that it could scarcely be reached by the finger. In Dr. Bradford's case the cervix must have been three inches above the orifice of the urethra.

DR. B. C. HIRST:

TWENTY-EIGHT ABDOMINAL SECTIONS IN
THE PHILADELPHIA HOSPITAL.

My object in presenting this report is to call the attention of the profession of Philadelphia to the success in abdominal surgery obtained by the gynecological staff of the City Hospital. The present management has furnished every facility for good work. There is a special room for operating which can be thoroughly cleaned and in which a high temperature can be maintained, an important point I believe. The nurses, in their training for the duties during and after operation, cannot be excelled, and the civil service system provides an exceptionally well-educated corps of resident physicians. All this is a matter of common knowledge to the medical officers of the institution, but it is not generally known to the profession at large. I believe that those who need surgical treatment for abdominal diseases can receive in the Philadelphia Hospital the best attention and care and may be assured the greatest safety obtainable anywhere.

I have appended an account of the operations done by myself in the gynecological wards. They taught me naturally many important lessons, and an account of them may possess some interest for those engaged in this work. One case I shall venture to dwell upon at some length, the only death from the operation. It was an abdominal section for diffuse suppurative peritonitis, done rather early, quickly performed, with complete evacuation of about two quarts of pus and good drainage, but done in vain, as most of these operations will be. Current literature

might lead one to suppose that diffuse suppurative peritonitis is peculiarly amenable to operative treatment, but the numerous reported cases of suppurative peritonitis cured by abdominal section are often incorrectly named and therefore misleading. For instance, in the transactions of the Clinical Society of London for 1890, a "case of acute diffuse suppurative peritonitis, successfully treated by laparotomy and drainage" is reported, but a mere glance at the description of the case shows that the pus was encapsulated in the pelvis and that there was *not* acute diffuse suppurative peritonitis. In another "case of purulent exudative peritonitis" (*American Practitioner and News*, 1890), in which "two gallons" of pus were evacuated, there was a history of septic infection a year before, and the serious symptoms which finally demanded operation had continued eighteen days. Again, in Henoch's case ("Ueber einen Fall von purulenter Peritonitis geheilt durch Laparotomie," *Berliner klinische Wochenschrift*, No. 4, 1891), in which 2,000 centimetres of pus were evacuated from the abdomen of a child 4 years old, the pus was evidently confined to the upper portion of the abdominal cavity, for the duration of the illness was comparatively long, and the fluid was entirely evacuated by an incision between the umbilicus and the xiphoid cartilage. Among five cases of "puerperal fever" cured by laparotomy reported by Dr. Joseph Price (*Western Medical Reporter*, October, 1890) done from twelve days to two years after labor, there was one in which it was said that general purulent peritonitis existed; but one would hardly expect to find diffuse suppurative peritonitis at so late a date after labor. There have been, it is true, very few successes reported from abdominal section for diffuse suppurative peritonitis, and very likely the future will show a better record, when we learn to recognize the condition early and to operate promptly. But there are and must continue to be many difficulties in the way of an early diagnosis. When one considers that the whole abdominal cavity may be filled with pus, and the whole length of the intestines may be covered with a purulent exudate, without fever, without constipation, without abdominal pain, without very much distention and without dulness on percussion, the difficulty of diagnosis becomes apparent. Some

curious advice as to the time to operate in these cases may be found in recent articles. One writer operates as soon as the patient becomes delirious, whereas the almost preternatural clearness of intellect to the last is one of the most distressing symptoms of the disease. Another operates when the temperature indicates pus, whereas there may be an enormous accumulation with a subnormal temperature. Several writers emphasize the importance of dulness on percussion as a diagnostic sign of pus in the abdomen; but in my own case, careful percussion just before the operation, under anæsthesia, gave everywhere a tympanitic note. The truth in regard to the efficacy of abdominal section for septic peritonitis, especially after childbirth, seems to be this: encysted collections of pus, even though very large, and localized septic processes can be relieved in a brilliant manner. I have operated seven times for such conditions and always with success. But diffuse suppurative peritonitis, from its rapid development, from the absence at first of distinctive symptoms justifying an operation and from the septic involvement usually of tissues beyond the reach of the knife, as the pelvic connective tissue, will often prove fatal in spite of surgical treatment. This, however, is no argument against the operation. The patient will surely die without it, and it is often impossible before the operation to tell whether the suppuration is localized or general.

ABDOMINAL SECTION FOR DIFFUSE SUPPURATIVE PERITONITIS.

A woman, aged 32, was brought into the hospital with a complete prolapse of the uterus, which had become uncarcerated and irreducible two days before. By applying ice to the tumor and keeping the patient in a recumbent posture for a few hours the uterus could easily be replaced. Urination had apparently been uninterfered with; the bladder was not distended, and only a moderate quantity of urine was drawn off by a catheter. The pulse was about 90—the temperature a little over 100°. The vaginal walls were œdematous from pressure. There was some abdominal soreness, but no distention. The bowels had been opened several times. Something more than twenty-four hours later, when I saw the patient again, the abdomen had become much distended and

very sensitive; the pulse was 156, and the woman presented a very bad appearance, with a pinched and anxious expression. The change had occurred in the preceding night, but I had not been notified. Within an hour I operated for what I believed to be septic peritonitis. On opening the abdomen true diffuse suppurative peritonitis was discovered, with about two quarts of free pus within the abdomen. The whole abdomen was rapidly explored for encysted collections of pus, but none were found, nor could the cause of the suppuration be discovered. Irrigation, drainage. Death of the patient four hours later. An autopsy was not allowed.

ABDOMINAL SECTION FOR INTRALIGAMENTARY CYST.

A young girl of 20, with an abdominal tumor as large as a pregnant uterus at term; had been growing for a year; appeared first on the right side, but now occupies the median line. Fluctuation apparent on abdomino-vaginal examination; the latter reveals the uterus, not much enlarged, pushed to the left and crowded down in the pelvic cavity.

Diagnosis: ovarian cyst on right side. Operation showed the cyst to be intraligamentary and unilocular. Its removal was difficult; indeed, a portion was left behind deep down in the pelvis, but the secretory surface was well sealed. The patient left the hospital in three weeks, went home to the country, and, I was told, led a fast life. More than a year later she died of pelvic abscess, which I have no doubt was the indirect result of the operation. I endeavored to persuade her to return to Philadelphia for another operation, but without success.

OOPHORECTOMIES.

Three of the operations were done for fibroid tumors. One of these was exceedingly difficult, so much so that hysterectomy would have been easier; the operation, however, was concluded, and the result was good. The remaining three operations were done for pain; and, much as this indication has been abused, these operations, I believe, were justifiable.

The first of them was performed on a young woman who had been delivered in the Maternity Hospital three months before. She had ever since her transfer from that institution to the Philadelphia Hospital been confined to bed on account of great pelvic pain, located

mainly in the left ovarian region. The girl was in the medical wards, where she had been sent on account of incipient phthisis. The lung disease was rapidly growing worse from her close confinement to bed. With the idea of relieving the girl's pelvic pain, and allowing her to leave her bed and go out in the open air, an exploratory incision was undertaken at the request of the physician who had her case in charge.

On opening the abdomen the left ovary was found enlarged—a fact which could not be demonstrated by the vaginal examination. On the other side the uterine appendages were healthy. The left ovary was removed along with the tube, and the girl made a good recovery from the operation. She was entirely relieved of all her pelvic pain, and was enabled to go about in the open air, to the improvement of her general condition.

The second case was that of a young woman upon whom oophorectomy for pain had been performed two years before by another operator. Since the first operation the girl had had increased menorrhagia and was in a wretched condition generally when she came under my charge. She gave a history of convulsive attacks at every menstrual period, but these, I imagine, were hysterical. As she had been through every form of gynecological treatment without benefit, an operation was advised and accepted.

On opening the abdomen there was discovered upon one side at least a quarter of an ovary with four stout ligatures tied around it. This was removed, and a single delicate ligature placed well down in the broad ligament. The woman made a good recovery from the operation, and I saw her some eight months afterward, when she gave me a most satisfactory account of herself. She had had no more pain since the second laparotomy, and had been able to earn her living by hard manual labor. In appearance she was quite another creature.

The third case was that of a young girl sent to me by Dr. Oliver, who had been treating her eyes. She was a very poorly developed individual, physically, and gave the history of a late establishment of menstruation and of a very infrequent return of it; at the menstrual periods, however, even though there was no bleeding, the girl experienced great pain, which so undermined her general health that she was unable to earn a living.

An examination showed an infantile uterus, and on each side of it enlarged and excessively sensitive ovaries. As everything in the way of gynecological treatment, including electricity, had been tried on this patient for months, abdominal section was advised and readily accepted. The ovaries and tubes were removed without difficulty, and the former found to be larger than common, one of them containing a corpus luteum quite as large as that commonly called the "yellow body of pregnancy," showing that while ovulation took place in this individual in the most vigorous fashion, there was no accompanying menstruation to relieve the monthly congestion of the pelvic organs, and the girl's health suffered greatly in consequence.

I have followed the course of this case for more than a year since the operation, and can report the greatest benefit from it. The girl now earns her living in a shop where she is obliged to keep on her feet the greater part of the day. Her general health is good, her eyes are improved, and the pelvic pains, which formerly incapacitated her for all work, have entirely disappeared.

OVARIAN CYST.

Patient gives the history that three months before she had been operated on by a homeopath of Chicago, who told her he had removed a cyst of the left ovary and had left the right ovary untouched because it was healthy. Examination revealed painful tumor to the right and behind uterus, which had a cystic feel. At the operation a thick-walled ovarian cyst, with dense adhesions, was found and removed with the tube. General peritonitis at time of operation; uterus infantile. Everything on left side had been removed. Good recovery; no drainage.

VARICES IN THE BROAD LIGAMENT.

Two cases of this nature were operated upon during the same term of service. One presented every feature of a ruptured tubal pregnancy; indeed, a differential diagnosis was practically impossible until the abdomen was laid open and the interior of the pelvis inspected.

The woman gave a typical history of extra-uterine pregnancy, with the seizure of shock and exhaustion on the day before I saw her. She stoutly denied, however, the possibility of impregnation. On opening the abdomen about a pint of blood was evacuated, and a

number of clots picked off from the intestines. The hæmorrhage came evidently from a ruptured vessel in the broad ligament. There was a rent in this structure beneath the tube into which one could put the point of a finger; under this there lay a clot. The tube itself was not altered, nor was the ovary. The blood was evacuated from the abdomen and the clots cleared out, and a *copious intra-abdominal douche given. No ligature was placed on the broad ligament, as hæmorrhage had evidently entirely ceased. There had been no fresh bleeding for twenty-four hours at least. The woman made a perfect recovery and left the hospital in a few weeks.

The second operation was undertaken for a pyosalpinx. The woman gave a history of having arisen on the day following her last confinement, and having from that time to the

ent done heavy housework continuously.

There was an obscure history also of gonorrhœal infection. The woman was brought to the hospital on account of an abortion, and on examination there was found behind and to the side of the uterus a soft tumor of considerable size and exquisite tenderness. The examination, although conducted with the greatest care, lighted up a sharp attack of pelvic peritonitis; when this had subsided an abdominal section was made. The tubes and ovaries in this case were found healthy; but in the right broad ligament there was a tumor as large as a hen's egg, adherent by fresh peritoneal exudate to surrounding structures, and giving a cystic feel. It looked so precisely like a congested loop of intestine that the ligature was placed under it with many misgivings; in fact, before trying the thread, I made an incision into it, half fearing that I would expose the lumen of the bowel; instead of this a profuse outpour of blood followed the cut. The ligature was tied and the tumor cut off, when it was found to consist of enormously enlarged veins, into some of which one could insert the tip of the little finger. This woman made a good recovery and was discharged from the hospital, cured.

OMPHALECTOMY.

This operation was undertaken for a large umbilical hernia, the covering of which was so thin that rupture was imminent. The woman had also a uterine fibro-cystic tumor of quite a large size. It was determined to operate upon the hernia, and, if it were feasi-

ble, to remove the tumor through the abdominal opening. The covering of the hernia was snipped with a pair of scissors and then torn through its whole length. The omentum and intestines, which were adherent to the rim of the opening, were freed and dropped into the abdominal cavity. It was found that the removal of the tumor would be a very difficult operation, and as the woman was in no wise a sufferer in consequence of its presence, its removal was not attempted. The peritonæum was united by a running catgut stitch, the rim of the umbilical opening was freshened and lengthened up and down, and then carefully approximated. The wound healed favorably; and while the woman was under observation, a period of more than two months, there was no sign threatening a return of the hernial protrusion. There has been no opportunity of learning the subsequent course of this case.

EXPLORATORY INCISIONS.

One of these operations was done upon a woman in the sixth month of pregnancy, who for two months before had been confined to bed with her knees drawn up on the abdomen, and with intense pain referred always to the right iliac region. There had been during this period elevations of temperature at irregular intervals; there was a history also of gonorrhœal infection. As the uterine appendages were lifted out of the pelvis, vaginal examination revealed nothing; but from the history of the case and the symptoms, I suspected a pyosalpinx; while my colleague, who examined the case carefully with me, believed it to be appendicitis. An operation was finally decided upon after a consultation, and with the full knowledge and consent of the patient.

The abdomen was laid open by a long incision, and everything within its cavity discovered to be perfectly healthy. The wound was closed with care to secure accurate approximation, and the woman made a good recovery, went to term, and was delivered of a healthy infant without complications. Undoubtedly, this case was one of pure hysteria, as we found afterward that the woman had been in the habit of simulating symptoms in various wards of the Philadelphia Hospital from time to time.

Another exploratory incision was done upon an Italian woman, from whom no his-

tory could be obtained, but who had high fever when she was brought into the hospital, and a firm abdominal tumor occupying the left side, extending around on the flank and reaching almost to the median line in front and half way up to the umbilicus. An incision through the abdominal walls in the median line showed this tumor to be retroperitoneal; it was suspected to be a lumbar abscess.

The abdominal incision was closed. a trochar plunged into the tumor at a point where the exploratory incision had shown me that I would not pierce the peritoneal cavity, and a large quantity of foul-smelling pus was evacuated. The puncture was enlarged with a knife and a drainage tube inserted, and the abscess cavity well washed out. This woman made a slow but ultimately a perfect recovery, and was discharged from the hospital, cured.

The third operation was done for what proved to be a concealed pregnancy. A. S., aged 22, came to my office in the latter part of July, with the history that she had had one connection with a man in October and had not menstruated since, except in April, when she lost blood every week. She therefore believed herself pregnant at term. With evident distress and every appearance of candor the girl insisted upon the truth of this story, although, as she stood before me, it was evident that she could not be pregnant at term, for there was no abdominal protrusion at all. An examination showed a tumor about four inches in its transverse diameter, extending from the symphysis to the umbilicus. No foetal heart-sounds could be heard, and no foetal movements could be felt. What felt like the normal uterine body could be made out by the vagina. Ballottement elicited no sign. The girl was examined a second time under ether, with the same result. In view of the menstrual history, and of the girl's statement, in regard to intercourse, which I believed in view of the physical signs, I concluded that the abdominal tumor must be something else than a pregnant uterus. I operated and found a pregnant womb, squeezed by tight lacing to a width of not more than four inches, and reaching behind the intestines above the umbilicus to the liver. The lower uterine segment was pulled out so that it resembled, on vaginal examination, the unimpregnated womb. The wound

was closed again, and the patient suffered no ill effects from it. I learned later that there had been a second intercourse in January, and after the gradual resumption of natural size and shape on the part of the uterus it was evident that pregnancy had advanced to the sixth month.

DISEASED TUBES.

The first of these operations was done upon a young girl who had been under my professional care for three years. I had delivered her by a high forceps operation with much difficulty. Six months afterward I performed trachelorophy; some months after that I treated her during a sharp attack of gonorrhœa, and after her apparent recovery watched the development of pelvic inflammation with all the symptoms of pyosalpinx. As the girl was constantly growing worse an operation was decided upon.

It was found on opening the abdomen that only the left tube and ovary contained purulent matter. The right tube was distended somewhat and adherent, but contained only clear serum. The left tube and ovary were extirpated with great difficulty. In the course of the operation there was profuse hæmorrhage from the base of the left broad ligament, which was only controlled after the application of two strong ligatures, passed as deep as possible and tied in the dark. The girl made a fairly good recovery from the laparotomy, but an abdominal fistula remained; she left the hospital with this still discharging. After some months she returned to me, much run down in health, with great pain in the left iliac region, and with a profuse discharge of pus from the fistulous tract. She was again placed in the hospital, and I made an attempt to cut down upon the fistula some two inches to the left median line. As the incision reached the peritonæum, however, it was found impossible to get farther, as the whole of that side of the pelvis was blocked by a large and firm exudate. While endeavoring to enlarge the incision the epigastric artery was severed and bled profusely; it had retracted beneath the peritonæum so that it was impossible to secure its end. The only way in which the bleeding could be stopped was by packing the wound firmly with gauze.

A week afterward an opening was made through this incision into the fistulous tract

and an effort made to curette it thoroughly; this failed to accomplish anything, and the fistula discharged as freely as ever. After waiting some two or three months more to give the tract an opportunity to close spontaneously, an abdominal incision was made in the median line and the pelvis carefully explored, to find, if possible, some cause for the persistent fistula; this operation likewise failed. The wound healed, however, and the girl left the hospital. Two weeks afterward she came to my office with a large silk ligature which had been discharged spontaneously from the fistula. On the following day the second ligature came away, and now the fistula is permanently closed.

Other operations for tubal diseases were as follows: M. P., aged 38, married twenty-two years, three children. Double hydrosalpinx. Removed. No drainage. Recovery.

J. H., aged 25, four miscarriages in one year, the last about two months ago. Double pyosalpinx, with tubo-ovarian abscesses. Universal adhesions and general peritonitis. Bowel perforated by aneurism needle. Sewed up. Drainage. Recovery.

C. L., aged 19, one child two years ago. Taken to medical ward with acute general peritonitis. Pelvic masses discovered. Sent to D. O. W. Double pyosalpinx. Complete removal. Drainage. Recovery.

R. D., single, aged 38; in ill-health for many years, with pelvic pains and difficult menstruation. Indistinct cystic tumors to be made out on each side of uterus. Operation. Hæmatosalpinx on one side, hydrosalpinx on the other. Removed. The operation was done in the midst of the grippé epidemic, which decimated the Philadelphia Hospital two years ago. The patient contracted the disorder and died of pneumonia ten days after the operation. The wound was perfectly healed and the abdominal organs healthy.

SEPTIC PERITONITIS.

A young girl was brought to the hospital with high fever and the physical signs of pelvic peritonitis. It was impossible to obtain a reliable history, but there was reason to suspect both a neglected abortion and gonorrhœal infection. This girl was carefully watched and treated; but as she continued to grow rapidly worse and was in evident danger of death, an abdominal section

was determined upon and undertaken. Intense pelvic and general peritonitis was discovered, with a large accumulation of pus in the right tube and the right side of the pelvis; large pieces of inflammatory lymph were dug out. The abscess cavities were opened as far as possible, their contents evacuated, and the abdominal cavity well flushed; the operation resulted in very decided relief. The patient's temperature was reduced, and she was in a fair way to make a perfect recovery, when some six weeks afterward, just as my term of service was completed, she developed symptoms of obstructed bowel, for which my successor, Dr. Montgomery, operated with success.

MYOMECTOMY.

This operation was done upon a woman who had been delivered six weeks before in the Maternity Hospital. She had gone through an attack of septic fever from an infected endometrium; as this was conquered, however, she failed to recover, and exhibited a low but continued fever, with pelvic pains. Abdominal palpation had detected, during pregnancy, large fibroid tumors attached to the womb. These were found, six weeks after delivery, nearly blocking up the pelvis and fixed. As inflammatory section of a septic nature in these fibroids was feared, and as a violent outbreak was expected at any time, an operation for their removal was determined upon; it proved to be remarkably easy. The tumors had good pedicles, which were ligated and cut through. The woman had, two days after the operation, a normal temperature for the first time in six weeks, and made an uninterrupted recovery.

ABDOMINAL SECTION FOR PELVIC PERITONITIS.

This patient I had attended two years before for septic peritonitis following abortion. She was desperately ill, but recovered without being operated upon. She came to me, during my present term of service, with the story that she had been examined in the Philadelphia Dispensary and in the Women's Hospital, and that in both places she had been told there "two tumors alongside the womb which ought to be removed at once."

On examination I found the uterus firmly fixed, and a large sensitive mass on each side of it. I agreed with the statements

already made to the girl, and made up my mind I would find a double pyosalpinx. With this idea and expecting dense adhesions, I made a long incision. To my surprise, the tubes and ovaries, though adherent, were otherwise healthy. The latter were embedded in large masses of exudate. The adhesions were broken, the womb placed in good position, the abdomen flushed, and the wound closed without drainage. Six weeks later the woman came to my office; the uterus was in good position, freely movable, and the "tumors" had entirely disappeared. Menstruation had occurred once since the operation without pain.

ABDOMINAL SECTION FOR PELVIC ABSCESS.

This patient had been operated upon a year before (varices in right broad ligament). She returned to the hospital, run down in health, with pain in right iliac region, and the statement that the day before there had come "a gush of matter out of the womb."

Examination showed a tender boggy mass on right side. Operation was complicated by dense adhesions. Abscess was discovered low down on right side; evacuated and walls enucleated. The patient made a good recovery, and left the hospital in a month, free from pain and vastly improved in general health.

ABDOMINAL SECTION FOR DOUBLE OVARIAN ABSCESS.

This patient was a colored woman, who gave a history that, though indefinite, pointed to extrauterine pregnancy. She had borne a child some time before; menstruation had returned shortly after, and recurred regularly till the last period, when it was missed. At the next period, when I first saw her, she was flooding profusely, and had violent pelvic pains.

The examination showed a large, sensitive tumor to the right of and behind the uterus. To the left the signs were indefinite, for a deep examination was impossible on account of pain. On opening the abdomen two large ovarian abscesses were discovered. In spite of dense adhesions, tubes and ovaries were removed entire. The former were much thickened, but contained no pus or other fluid. Abdomen flushed and drained for forty-eight hours. Perfect recovery, without complications.

DISCUSSION.

DR. CHARLES P. NOBLE:

I am quite sure that the same accident, under the same circumstances, has occurred before. Dr. Hirst is by no means alone. Reinl, one of Hegar's assistants, who wrote on Hegar's sign of pregnancy, refers to the same mistake having been made. I think that the mistake has been made by others, of considering the pregnant uterus an abdominal tumor, and the thinned-out, lower uterine segment, the pedicle. Indeed, this condition is only an exaggeration of what ordinarily takes place in pregnancy, and on which Hegar's sign rests—that is, the great elasticity and softness of the lower uterine segment.

After a time, every one becomes modest about the absolute diagnosis of pregnancy, and, if in order, I shall refer to a case which I have mentioned before, as illustrating the difficulties of diagnosis in some cases. The patient was an example of concealed pregnancy. She fell into my hands when four months' pregnant. She had arrested menstruation, although there was some uterine bloody discharge; and she undoubtedly had a pelvic tumor connected with the cervix, and which I thought to be a retroverted pregnant uterus. I could distinctly trace the connection between the cervix and the pelvic tumor. She also had a tender, hard mass on the right side, which I took to be an inflammatory complication in the pelvis, and which proved to be a pyosalpinx. I watched her for some time, and on one or two occasions tried to reposit the uterus, but when it did not readily go up, I desisted. She had mild, inflammatory symptoms, and the question of inducing abortion came up; but this was not done. The whole mass of the tumor increased about as the pregnant uterus would. When five months were reached she felt no life, and I could hear no fetal heart-sounds, nor could I find the rhythmic contractions of the uterus. I saw her as late as the sixth month. The growth continued, but there was absolute absence of the rhythmic contractions of pregnancy, and there was absence of fetal movements to be felt by the patient or the physician. I confess that, although my diagnosis had been pregnancy, I felt very doubtful as to what was the matter. She then fell into the hands of another physician, who, mistaking the condition for an ab-

dominal tumor, operated and did an inad-
vertant Cæsarean section. The pathological
facts mentioned were brought out at the post-
mortem. In this case the sign of pregnancy,
which, in my hands, has proved very satisfac-
tory, was entirely absent—that is, the intermit-
tent, rhythmic contractions of the uterus. The
reason they were not felt was made plain by
the post-mortem. There was found a fibro-
cystic tumor on the anterior wall of the uterus
—that is, between the uterus and the hands
of the examiner. For the same reason the
heart-sounds could not be heard. If a va-
ginoscope had been used, they might have
been heard. I do not at all feel that the gen-
tleman who succeeded me was to blame for
not recognizing the true condition; for, hav-
ing watched the case for two months, I backed
out of what was a correct diagnosis.

I think that the most universally reliable
sign of pregnancy is the intermittent rhyth-
mic contractions of the uterus; and I think
that if operators in general would rely more
upon this sign, fewer errors would be made.
Still, as the best of men have made these er-
rors, I do not doubt that they will continue
to be made in spite of all precautions.

DR. J. PRICE :

The case referred to by Dr. Noble has ex-
ceptional features, and seems rare in the his-
tory of fibro-cystic tumors. First, as regards
its size occurring in a tumor corresponding to
the sixth or seventh month of the gravid
uterus. This is too small for a cystiform de-
generation of a fibroid. Five cases of cysti-
form degeneration occurred in Dr. Atlee's
378 ovariectomies, and these were all errors of
diagnosis. The tumors were considered cysto-
mata. In Keith's one hundred and ninety-
fifth case, the first error of diagnosis occurred,
and this was a huge fibro-cystic tumor mis-
taken for an ovarian tumor. Throughout the
history of all such tumors, I have never
met with one of this size undergoing that re-
trograde change, and one only common in
large tumors. I simply mention this as a
fact in the history of such growths.

DR. B. F. BAER :

It is certainly commendable in any one to
honestly confess a mistake in diagnosis, but
I do not think it is wise that we should take
cover in the statement that anybody might
have done the same, and therefore the mis-
take is excusable. Such mistakes have been

made, and, I suppose, will continue to be
made; but do not let us condone the blunder in
ourselves. Remember, we should be experts.
I feel that I could not pardon myself if I
made such a blunder as to open the abdomen
for ovarian tumor and were to find nothing
but normal pregnancy. Although it is now
the fashion to condemn the use of the sound
as a diagnostic instrument, I would rather
risk bringing on a miscarriage by passing the
sound into the uterus, if that were the only
thing left to do. But we should be able, in
most cases, to tell the condition by palpation
and the other diagnostic signs of pregnancy.
The size, shape and consistency of the uterus,
to say nothing of the so-called placental or
uterine murmur and foetal heart-sounds,
together with the ordinary rational signs of
gestation, are usually sufficient to render a
diagnosis of pregnancy probable. In Dr.
Hirst's case the statement of the patient and
the peculiar shape of the abdomen from the
lacing were misleading features, but the ex-
treme length of the uterus should have pre-
vented the opening of the abdomen. Although
his patient may go to term, she was subjected
to considerable risk to her life, and greater
risk of miscarriage than if even the sound
had been passed. Last year I opened the
abdomen for the removal of an ovarian
tumor, and found, also, that the patient was
three months pregnant. This I had sus-
pected, but was not sure. She recov-
ered from the operation, but miscarried a
month later. It would perhaps have been
better to have waited and operated after de-
livery. In another case, also operated last
year, the patient was known to have had a
tumor for several years. She became preg-
nant, and when six months advanced the ab-
domen was so distended from the tumor and
the pregnant uterus, and dyspnoea was so
great, that it was necessary to do something
to relieve it, and her physician tapped
the tumor and relieved the patient for the
time. It rapidly refilled, however, and by
the time the pregnancy had reached term the
tumor was as large almost as it had been at
the time of the tapping. She had a normal
labor, and six weeks afterward I removed a
fifty-pound ovarian cyst, the patient making
a good recovery. I feel sure that the tapping
was wise in this case, for it is likely that if
the operation had been done during the preg-
nancy miscarriage would have resulted.

I do not place the same reliance upon Heger's sign of pregnancy as Dr. Noble does. When the uterus is large enough to contract we have other signs of gestation which are more trustworthy, as well as more available.

DR. ROBERT HARRIS :

I would like to ask Dr. Hirst one question relating to a point that was not clearly brought out in the paper. Were the intestines not overlying the uterus causing resonance over the anterior part of the abdomen?

DR. CHARLES P. NOBLE :

I should like to add one or two things. In the first place, with reference to the sound. The gentleman who operated on the case referred to to-night passed the sound three inches and excluded (?) pregnancy. I think we all agree that purely normal pregnancy would not be overlooked. It would be a case such as Dr. Hirst reported, or one complicated by a tumor or adhesions distorting the uterus. In such cases the sound would not be of much use.

I should like to say another word with reference to the rhythmic contractions of pregnancy. The reason why it is of more general application than other signs is because that in certain cases the foetus is dead, and we cannot get foetal movements and heart-sounds. In other cases, particularly in hydramnios, although the foetus is alive, it may not be possible to hear the heart-sounds or to get foetal movements. In these cases the rhythmic contractions can be felt. This is insisted upon by many good operators. In cases of this kind no other sign is available unless it be the appearance of the vagina and cervix. We may have sounds similar to the uterine soufflé in other tumors, so that that sign is not infallible.

DR. J. PRICE :

The symptoms of pregnancy are numerous, and some of them are quite reliable. Of course it is difficult in many anomalous cases to say positively that you have or have not pregnancy. I have found it so in many cases. I have a rare specimen for presentation, demonstrating many points in the discussion. I am not quite prepared to say that I would practise the introduction of the sound in suspected pregnancy. If I felt that it was important that the woman should go to term

with some anomalous condition, and at the same time feeling that delivery was safe and probable, I would much rather make a small incision if the indications were clear. I think that the danger would be less and the results more satisfactory. Hence in the cases under discussion of so-called concealed pregnancy, I would rather recommend the button-hole incision, although I dislike the so-called exploratory incision, as it implies ignorance. I also dislike the term *concealed pregnancy*, as it implies inability to make the diagnosis. You might call an extrauterine pregnancy or a fibroid complicated by pregnancy a concealed pregnancy. It is a complication, but not concealed pregnancy.

The specimen which I shall present is from a woman, married at forty, who in less than six months presented the ordinary symptoms of pregnancy, with a huge tumor noticed ten years before marriage. This grew rapidly after marriage. It was difficult to say that the woman was pregnant, although it was very probable. In that case it would have been impossible for the woman to have aborted at the second month, and the sound could not have been passed without violence. These obscure cases, called by the French *sacculated uteri*, pregnancy going on in a retroflexed and pelvis-bound uterus, are puzzling cases. I have seen three cases, all of which perished in labor. These were all seen in consultation, two had been in a labor a week without a diagnosis, two died within an hour after I saw them. Recently some one called my attention to a case of that character in which the pelvis-bound uterus was replaced, and the patient completed her pregnancy and was delivered of twins. After replacing the uterus the patient was kept in bed until after the fourth month, a practice that should always be followed in this class of cases, at perfect rest, otherwise there is great danger of aborting or recurrence of the displacement. I might also refer to the error of diagnosis in the case of Bantock, where he did a hysterectomy with dropsy of the amnion and found twins.

DR. G. BETTON MASSEY :

I would ask Dr. Hirst what were the symptoms that induced him to operate on the case which he reported? I ask this with the idea of showing that probably a little waiting would have solved the question.

DR. WILLIAM S. STEWART:

By waiting I have this summer saved myself much chagrin. A doctor called on me in reference to holding a consultation over a young unmarried girl who always ceased menstruating during the warm weather, but it would return in the winter. In addition to cessation of menstruation there had developed enlargement of the abdomen. I asked the physician whether it was possible that the girl was pregnant. He was confident that she was not pregnant, as this cessation had been repeated for several years. On examination I found in the right iliac region a hard semi-fluid mass. This was not in the median line. She said that this disappeared in cold weather. My advice was that nothing be done at present, but that if the tumor remained after the recurrence of menstruation something more should then be done. In a few weeks, however, it became apparent that the girl was pregnant.

DR. BARTON COOKE HIRST:

I think with Dr. Baer that there is no excuse for overlooking a perfectly normal pregnancy. But my case was far from normal; the uterus was crowded behind the intestines and reduced to a tumor four inches in width. It was perfectly solid in feel. The woman gave a false history of a peculiar kind. The lower uterine segment was pulled out so that it resembled the uterine body.

The placental bruit as a sign of a pregnancy is not to be depended upon; there is, in fact, no placental bruit. The sound is produced by the blood entering the sinuses of the uterus from the uterine and ovarian arteries. The same sound may be heard in fibroid tumors. It is not necessarily heard near the seat of the placenta.

I agree with Dr. Noble that the intermittent uterine contractions are of value. But these are absent in some cases of pregnancy and present in some cases where pregnancy does not exist. The sign is absent in cases of great distention of the uterus, as in hydroamnios where the uterine muscle is reduced to a mere shell. It was looked for in this case. I think that the compression to which the uterus had been subjected prevented its occurrence. Sometimes this sign may be detected when the uterus is distended from other causes than pregnancy.

I cannot agree with Dr. Baer in regard to

the introduction of the sound. Suppose that I had used it in this case, I should now have to regret in all probability the destruction of the fœtus, or possibly the sound would have demonstrated nothing. This woman had no trouble after the operation, and will be delivered without difficulty. This is better than destroying the child at the sixth month. I regard an exploratory incision in doubtful cases of abdominal tumors as entirely safe.

It is, I think, the experience of all that as we learn more we become more charitable to the mistakes of others and perhaps to our own. I think, however, that no one should retreat behind the assertion that mistakes are made by others. I report the case that others may learn the lessons that have been taught me, and with the hope that it will help in preventing similar mistakes in the future. These errors will, however, occur. Vanderveer has collected sixty-eight reported cases, and the number not reported is legion.

The diagnosis of pregnancy may be very difficult, even impossible. I think it was so in the case under discussion. I have seen many cases in which the condition was obscure, but yet discoverable. I was on one occasion asked to operate upon a lacerated cervix. I found the patient seven months pregnant; she had been getting weekly treatment for some months. Again, I saw a case of hyperemesis gravidarum, which was treated for gastric cancer until the pregnancy was discovered. A few months ago a patient was sent to me with a "fibroid tumor." She was pregnant at term, and the abdominal tumor was the pregnant womb. Not long ago I was asked to see a case of advanced extrauterine pregnancy. This turned out to be an intrauterine gestation, with a large fibroid on the womb. Some years ago I saw a very respectable, young unmarried girl, with advanced pregnancy, in whom the family physician, a man of great reputation as a physical diagnostician, had made the diagnosis of floating spleen. This list might be carried on almost indefinitely. As a curious example of the opposite error, I might mention that last spring I was invited to see a Cæsarean section at term. A positive diagnosis of pregnancy was made, and the position of the fetal head pointed out. At the operation a fibroid tumor of the womb was discovered, with not so much as an embryo inside of it.

DR. J. PRICE :

Delayed operation is a great stumbling-block to successful surgery. The majority of operative cases call for immediate action. When the diagnosis is made in angry inflammatory troubles there is no time to be lost except that which is taken to make the necessary preparations for operation.

In the few cases where delay may be safe it is only so under the best possible conditions of mind and body. Mentally the patient may be threatened with a variety of neurotic troubles of all grades, from depression and melancholia to hystero-epilepsy and insanity. Physically the best possible conditions exclude all forcible and irritating treatment by drugs, instruments or electric batteries.

Again, delay under these favorable conditions may be impossible, as in the case of the poor and those who depend for their maintenance on their own labor. These must have the treatment that will, in the shortest time, restore them to a state of health. *Prompt* surgical interference is the only remedy that promises this, and of all cases that come into the surgeon's hand these do the best. They show the wonderful possibilities of results in surgery, were rich as well as poor compelled to elect operation before all their vital forces are at the lowest ebb. It is this class of cases—the poor who cannot lie by and wait while the mischief steadily increases—who are the operator's glory; it is these who furnish his lowest percentage of mortality. It is hard to credit the fact that so keen and accurate a surgeon as Mr. Tait, and one with so wonderful an experience to the contrary, should concur in the remark, as he did recently, that "no one is justified in resorting to surgery until he has exhausted every other method of treatment." He, of all men, knows that it is the patient that is exhausted before one-half the other approved methods of treatment have been tried on her.

Fortunately, the great body of practitioners who follow the operators are soon converted. They either become operators or send their patients promptly to operators. A little practical training at the clinic and bedside makes the recognition and differentiation of these troubles easy. They are either uterine, ovarian or tubal.

UNSEXING.

There is much more false sentiment than sound sense in the cry of the so-called "con-

servatives" against "unsexing," not to mention such offensive terms as "mutilating," "spaying," etc. The woman is, first of all a human being, and by that right entitled to all that gives her her life in security and happiness. *Secondly*, she is a female, and if she is so unfortunate as to have lost the power of reproduction through disease, the removing of the diseased parts does not unsex her; disease, destroying the reproductive organs, is the "unsexer." To blame the surgeon is to blame the rescuer, and not the offender. In many cases the woman is restored by removal of the parts to comfort in the remaining phases of sexual activity. The operation under these circumstances might be called a re-sexing.

At present there are *two camps* in those practising gynæcology, and it will be difficult to reconcile their differences of belief.

This rare group of specimens, all removed within a very recent period, beautifully and forcibly demonstrate how much there is of the, worthless, of bad teaching, in our literature, and the mischief and complications following the counsel given by a number of teachers and specialists. Many of these patients were seen early in the growth of their tumors, and had the appendages been removed while the tumors were small and healthy much suffering, general impairment of health and a dangerous and trying operation would have been avoided. My recent experience in hysterectomy has influenced me to plead, first, for early removal of the appendages in fibroid growths, and second, for early hysterectomy, before tinkering or treatment of *any sort* has been tried, and before the vicious retrograde changes so convincingly illustrated in these specimens. Certainly this group of specimens must go far in confirming the most sceptical in the importance of early treatment, of anticipating the malignant changes so common in their natural history. I am satisfied from a large experience that hysterectomy for growing fibroids can be done with the same low mortality as that gained in ovariectomy. The removal of a healthy fibroid from a healthy peritoneal cavity, if carefully and skilfully done, is absolutely a safe operation. Unfortunately, the operation has been largely done upon greatly exhausted and dying patients; this is as calamitous as are delay and neglect in ovarian cystoma. I have recently operated

in three delayed cases, emergency cases, all the conditions urgent of immediate operation, as rotation or twisted pedicle had taken place. Had these cysts been removed when the tumors were first recognized, great suffering, danger and anxiety would have been avoided. The pus question seems to be settled; it no longer holds an important place in our discussions. As to what is best, what of vital importance in *all abdominal operations*, the resistless logic of results urges early surgical interference.

Ovarian cystoma, fibroids, dermoids, suppurative inflammatory troubles of tubes and ovaries should be treated early if we are to have a small mortality that of five per cent. or less, attainable only by early surgery—before the great variety of accidents or complications incident to the development of all such troubles. It is simply surprising, the great number of complications of viscera lesions dealt with in this group of mixed specimens. In many cases it was necessary to stitch carefully cheesy, disorganized and adherent bowel. Irrigation and drainage were used most carefully in about all the cases. I could not do this work successfully without drainage. Again, irrigation is thrice important. My results have been gratifying. I have had three deaths in the last hundred: one in appendicitis; one in hysterectomy, complicated by suppurating cystoma on the right side as large as an infant's head, general peritonitis and universal adhesions; had been confined to her bed for some six weeks; rapid and feeble pulse, with high temperature; never reacted from operation. The third, a woman, who had just returned from a private hospital, where she had been five months under treatment, feeble pulse, high temperature, abscess of the left ovary, cheesy, disorganized tubes, universal adhesions, pelvis full of strongly adherent bowel. Never reacted. Died the third day. Three deaths in one hundred, all due to delay, and had they had sections early they would have recovered.

SPONTANEOUS RESULTS.

"In comprehending the proper course in the management of these cases we must take into account, first, the prevalence of the affection; and, secondly, the large number of instances in which the tumor, without treatment, ceases to grow, and often a complete spontaneous cure occurs.

"Under the impulse of our present surgical views, after a fibroid tumor of the uterus has been diagnosticated, especially if hæmorrhage should be one of the attendant symptoms, the appendages are removed. In the course of time the symptoms subside, and the case is at once heralded to the professional world as a speedy cure; and so it may be, but often the proof is not conclusive. In many cases the results are unquestionably *spontaneous*. And as in the dead-room small fibroid tumors are found in the uteri of child-bearing women, the inference is justifiable that in the *near* future many women who could otherwise have gone on safely fulfilling their duties to society and to the State will be *disqualified* by the *abdominal surgeon*; probably no affection is more amenable to treatment, but if possible we should arrive at the truth.

"The fashion of the day in sending every woman who is found to be the subject of a fibroid tumor to a specialist is not in the interests of justice, and in many instances is not in the interest of the patient; many cases will recover without treatment, and many others can be cured by the family physician quite as well as by the gynæcologist, and in some instances they will be better qualified, after cure by the former, for the discharge of their physiological functions than when treated by the latter."—*Reamy*.

"I believe, and I have reason to know, that quite a number of the fibroid tumors of the uterus reported as cured by electricity have been indurated masses, the products of pelvic inflammation, which often simulate fibroid growths very closely, especially when in the pouch of Douglas. Large fibroids I have never destroyed; it has almost invariably been possible to relieve the symptoms.

"A word in regard to the method of treatment to be pursued: Various methods have been successively suggested; we have had ergot, we have had electricity, then the removal of the ovaries, and now, as surgery has advanced, the removal of the tumor itself. It is a serious error and an antiquated idea to recommend any one method of treatment for fibroids, that is, in all forms of this disease. This must vary with the individual case, the nature of the tumor and its growth; and the treatment should be adapted to the existing conditions in each individual case. In some we must operate, but if possible we

should try to relieve the patient without recourse to the knife, by ergot or electricity."—*G. J. Engelmann.*

DR. ROBERT P. HARRIS :

I wish to call attention to the specimen of fibroid, containing also a foetus. These sections have been called Porro operations, but they are not. There is no Cæsarean section. They are really premature puerperal cœlio-hysterectomies. There have been fifteen such cases operated upon, with eleven recoveries. The operation does not correspond in fatality with that of the Porro. Four of these operations have been performed in this city, with two recoveries. Dr. Sutton, of Pittsburg, recently had such a case terminating in recovery.

DR. B. F. BAER :

The cases which I shall present to the Society this evening are not only interesting in themselves, but they so forcibly illustrate and emphasize the danger and unnecessary suffering attending the delay which results from mistaken diagnosis that I think a brief report of them may be useful. The first specimen is a

DERMOID OVARIAN CYST.

The patient, aged 55 years, had one child twenty-two years ago, being sterile since. She had for a number of years complained of pain in the left ovarian region, severe in character and growing worse as she approached the menopause, which occurred six years ago. About this time she was seized with violent pain in the left ovarian region and pelvis, and went through what appears to have been an attack of pelvic peritonitis (though it was said to have been "inflammation of the bowels"), which confined her to bed for months. After her recovery from this illness she continued to suffer relapses until six months ago, when she had another severe attack from which she narrowly escaped death, and since that time her suffering had been almost unendurable.

When I was called to see her I found her, of course, greatly reduced. Her chief complaint at this time was an inability to evacuate the bowels and bladder properly, due to pressure of the tumor upon those organs. These symptoms had rendered her excessively nervous, apart from the physical suffering which they entailed. Pain in the left ovarian region was still excessive. The patient had

been under the care of several excellent physicians during these years, and had received treatment for the symptoms as they presented themselves, but a correct diagnosis had not been made, therefore the treatment could not have been well directed. On examination I found the pelvis filled with a tumor as large as the foetal head at term. It was quite firm, smooth and tense, tender on pressure and immovably fixed. The uterus was carried high up in the hypogastrium so that the cervix could scarcely be reached; the uterus and tumor seemed to be closely connected.

I expressed the opinion that the tumor was of ovarian origin, probably containing pus. I excluded fibroid tumor of the uterus, not so much from the physical signs, for it felt very much like a fibroid tumor, as from the history. But disregarding the real character of the tumor I advised its removal, and the patient begged me to act immediately.

She entered my private hospital, and the operation was performed on July 16, 1891. On opening the peritoneal cavity I encountered the uterus immediately beneath the incision. It was of about normal size, but greatly congested and fixed firmly to the tumor, which was deeply located in the pelvis. I began by dissecting the posterior wall of the uterus from the surface of the tumor, and then continued the dissection by passing my finger around the wall of the tumor, separating it from its attachments to the bowel and other organs. During this manipulation my finger inadvertently entered the cyst, and immediately the field of operation was deluged with its fluid contents, which proved to be the characteristic fatty material of a dermoid tumor. I now turned on the water from the irrigating apparatus, and the operation was continued and completed under the flow of hot water; a mass of hair as large as the fist now presented at the incision, and this was removed before the entire separation and removal of the cyst, which was soon accomplished. The irrigation was continued until the pelvis was entirely cleansed of the sebaceous material, when the incision was closed without drainage. The patient made an uninterrupted recovery, and returned to her home, nearly 200 miles distant, on the nineteenth day after the operation, one of the happiest women I ever saw. She was entirely relieved of pain and was performing her functions properly.

The second case was

A LARGE SEMI-SOLID OVARIAN TUMOR
SIMULATING PREGNANCY.

This specimen was removed from a lady, 46 years of age, who has had four children, the youngest being 12 years. She enjoyed good health until about a year ago, when she began to suffer with pelvic pain, which gradually increased in severity. A year ago she began to complain of nausea and other dyspeptic symptoms, and this with suppression of the menses suggested to her physician the probability of pregnancy. Soon after this the abdomen began to increase in size, and an examination now confirmed the doctor in his suspicions. He found the uterus enlarged, and soft from congestion; he therefore concluded that pregnancy existed, and he held to this view for months, although the subsequent developments did not warrant it. It is curious how we sometimes continue to believe in a first impression, even after we should be convinced of its fallacy. The abdomen continued to enlarge, the patient began to lose flesh, the nausea and vomiting being unabated, until finally she was so reduced that she was compelled to remain in bed almost continuously. She constantly suffered from pain over the right side of the abdomen, and there was slight increase of the temperature. She finally reached the full period of her supposed pregnancy, but did not go into labor. It was now finally determined that the tumor had a pathological origin and that it was probably ovarian. Unfortunately, however, this conclusion was only reached after the patient had endured months of suffering which had reduced her almost to a skeleton, rendering operative measures now most dangerous. Her pulse was exceedingly weak, at times could not be counted, and she could scarcely sit up without fainting; her stomach was still so irritable that she was unable to retain nourishment in the smallest quantities.

On examination I found the abdomen irregularly enlarged to the size of pregnancy at term. There was great tenderness all over its surface, especially on the right side, and there were the usual percussion and palpation signs characteristic of encysted fluid. Per vaginam the uterus was found closely connected with the tumor; it was irregularly enlarged, nodular and quite hard; it could not

be moved and seemed to be one with the tumor. I made a diagnosis of ovarian degeneration, but strongly suspected that the condition might be malignant. The patient was stimulated so that she could be removed to my private hospital, where, after a few days of rest and rectal feeding, the operation was performed on September 3, 1891. There was, however, very little hope of a successful result, and the prospect was not improved during the operation, for it was one of the most difficult I have ever met with for this character of tumor. The adhesions to the abdominal wall were so extensive and firm, and the parts so vascular, that I feared for a moment that I had a fibroid tumor or even a pregnant uterus to deal with. But after a little time I was able to determine that the tumor was a semi-solid ovarian polycyst, closely adherent to almost everything it touched, and requiring great care and considerable time in separating it from its attachments. After it was finally removed the pedicle was found to be so short that the tumor was in close contact with the uterus, rendering ligation of the pedicle quite difficult. The patient was at this time so exhausted that it was necessary to make use of active stimulation to revive her; and while this was being done, hot-water irrigation was used, and the bleeding surfaces, which were numerous, were looked after and controlled. After removing all clots and debris, the abdomen was closed without drainage, and the patient returned to bed, apparently more dead than alive. She slowly rallied, and by careful nursing and the strictest attention to rectal feeding and stimulation (the stomach being useless) she was brought back to life and has made a good recovery.

The third case is

AN OVARIAN CYST WEIGHING FIFTY-FIVE
POUNDS FROM A LADY AGED 64 YEARS.

This patient, aged 64 years, is married and the mother of a large family, the youngest child being 28 years of age. She had not been in good health since the birth of her last child, and six or seven years ago she noticed that her abdomen was slightly enlarged. She did not consult her physician about this until several years had elapsed, or until the enlarged abdomen attracted the attention of her friends, when she very reluctantly submitted to an examination. A diag-

nosis of abdominal dropsy was made, and a course of treatment for the purpose of eliminating the fluid through the bowels, kidneys and skin was instituted. This reduced the patient without reducing the tumor, so that it had to be abandoned; and measures to rescue her from death resulting from this exhaustive treatment were then substituted. In the meantime the tumor was slowly increasing in size, and in January of this year dyspnea had become so great from pressure on the diaphragm that it was necessary to remove the fluid to save her life, *and she was tapped*. It was said that four gallons of fluid were withdrawn. She was quite ill after the tapping from exhaustion and cardiac palpitation, and it was feared for days that she could not rally. The abdomen began at once to refill, and the patient to still further emaciate as she lingered along until July, when she was as large as she had been in January.

In the meantime her physician, an able, conscientious and conservative gentleman, passed suddenly to his reward, and the patient passed into the hands of another doctor, who made a diagnosis of ovarian cyst and advised operation without delay. The patient was now in a very low condition, but we did not hesitate to give her the only chance she had for her life. The operation was performed on July 12, and it was one of the simplest, so far as the removal of the tumor was concerned, that it has ever been my fortune to encounter. An incision of less than two inches permitted me to evacuate the fluid, when it proved to be an ovarian monocus without a single adhesion, which I succeeded in drawing from the abdominal cavity without increasing the length of the incision. After removing the other ovary, which was, however, not diseased, the wound was closed and the patient returned to bed. She stood the operation, which did not require more than fifteen minutes for its completion, well. The reaction, however, was very violent and is worthy of note. Two hours after the operation, when I saw her at the summons of the nurse, I found her with a temperature of 105° , and a pulse so rapid that it could not be counted. Her skin was also very dry and hot. This would have

been alarming had I not known that it was too early after the operation for it to have been of inflammatory or septic origin. I therefore attributed it to an emotional cause. I have in several other instances found considerable increase in temperature immediately following recovery from the anæsthetic. A hypodermic injection of morphia and atropia has always succeeded in quieting the patient, the temperature soon after returning to the normal state, and such was the case in this instance. Before I left the town, 300 miles from here, at midnight, the temperature had returned to almost the normal and did not rise again in the after-history of the case. By careful nursing and strict attention to feeding she made a good recovery, but her convalescence will necessarily be prolonged because of the delay in the operation consequent upon an incorrect diagnosis.

DISCUSSION.

DR. J. PRICE:

We are often censured for the arbitrary statements made here. It seems almost impossible to be too dogmatic in regard to our position in this class of troubles. Dr. Baer states that these were neglected cases, and the great risks to which these patients were subjected were due to what might be called reprehensible delay. They might at any time have been sacrificed by a twist in the pedicle or by suppuration. This woman with the dermoid had evidently had some post-puerperal trouble, as she never conceived after the first pregnancy. Puerperal fever is often due to injury in labor, or to a dermoid or other pre-existing tumor. In one case I removed a dermoid from a woman, who narrowly escaped death from puerperal peritonitis, on whom I had urged operation five years before. I think it impossible to put too strongly the necessity for prompt and early interference in all these growths. Nothing pleases me more than to discover a tumor the size of a guinea-egg or a goose-egg. Their removal is rapid and simple, and the patients all get well speedily. It is always trying to deal with large tumors. They are evidences of neglect and unjustifiable delay.

J. M. BALDY, *Secretary*.

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ORIGINAL COMMUNICATIONS.

Eight Months' Work at the Free Dispensary for Women, Philadelphia.¹

BY HORATIO R. BIGELOW, M.D.

DURING the days of my apprenticeship in gynæcological electro-therapeutics, dating back now ten years, but the more especially after an intimate association with Dr. Apostoli, I saw plainly that for purposes of observation, material and study, an individual clinic was an absolute necessity. In Europe almost every docent has his own dispensary, so that he has a much wider range of observation and a much larger opportunity of weighing evidence than do those who depend upon a fluctuating private practice alone. On January 1, 1891, Dr. Massey and myself inaugurated our clinic for the treatment of diseases of women by electricity, at 1632 Cherry Street. It seemed desirable and a most fitting season to have

some place where the method of Apostoli could be demonstrated to such onlookers or sceptics as desired to have clinical evidence; another, a second purpose, was had in view, which the number of cases amply subserved, and this was accuracy, quickness and honesty in diagnosis. An experience as elaborate as that possessed by most men and exceeded by none, ample leisure, opportunity and the desire to learn, a personal observation extending over six years in many of the larger hospitals, public and private, on the Continent, convinced me that gynæcological diagnosis was generally a vocative quantity among recent graduates and general practitioners. College teaching was a matter of book-lore only; the educated touch came only with ample practice among a large variety of cases, and such a *clientèle* was not

¹ Being a paper read before the first meeting of the American Electro-therapeutic Association, Philadelphia, September 24, 1891.

always available. These things impressed themselves upon me, embarrassed me, mortified me. I knew of mistakes being made — where mistakes create bad national impressions — by men who had been nursed upon theory alone, and I knew of others made by men who are highly placed as specialists. Not the least thing that I learned of Apostoli was refinement, scrupulous care and precision in formulating a diagnosis. I consider him—and I do not stand alone in this particular—the most accurate diagnostician on the Continent and the equal of any of his contemporaries. I was fortunate in having Dr. Massey enter so readily into the scheme, for there are many responsibilities and trials in the orderly arrangement and management of a clinic. We have had, up to this time of writing, seventy-five new cases, a small number, perhaps, but large when it is remembered how long a time must naturally elapse before such a place becomes generally known, and how loath charity patients are to engage in a new medical departure. We did not advertise through the daily press, for the dispensary is supported entirely by ourselves, so the only heralds that we had were the patients themselves. We have made between 600 and 700 applications as follows:

Anodal galv. vaginal	275
Anodal galv. uterine	250
Cathodal galv. vaginal	
Cathodal galv. uterine	25
Anodal vaginal galv., labile	1
Bipolar vaginal, Faradic	4
Puncture through vagina, positive . . .	10
“ “ “ negative . . .	45
“ “ abdominal walls . . .	3

These punctures were all for uterine fibroids. Three tumors were sub-

peritoneal, the others were mural. There were fifteen cases of fibroids in all. The mean current strength used for vaginal applications was 35 ma.; for punctures, 85 ma. We have had four cases of specific purulent salpingitis; four of catarrhal salpingitis, and by this I mean cases which had no specific history, in which there was no cachexia, no hectic, and in which the pain was not an important exaggerated symptom; and five cases of salpingo-ovaritis, or cases in which we had reason to believe that there was a series of pus pockets in the tubes and ovaries. As much as we would like to puncture some of these tubes, in which the drainage to the uterus was free, no pus pockets being present, we were unable to do so, because there were no beds at our disposal (and the reaction in such instances is apt to be severe). Symptoms are relieved by vaginal applications in the simpler forms, but the cases are never cured. The intrauterine applications, supplementing the vaginal, *do* have a marked influence for good in simple, uncomplicated cases; those in which the tubes are not constricted here and there, forming abscess pockets, and where the dribbling into the uterus has not been interfered with. The cases of large tortuous tubes, with thin and distended walls, with irregular swellings, denoting pus pockets, and with a pronounced cachexia, demand always the interference of the surgeon. Electricity can do no possible good in such cases; it may even do much harm. So one object of a well and intelligently conducted clinic is differentiation; to know what cases to treat and what not to treat, to realize that there is

such a thing as overtreatment, and that electricity is not a panacea for all female pelvic disorders. Some other things are learned as well.

There are many tumors which appear to be benefited symptomatically only. Soft myoma, fibroma undergoing degeneration and subperitoneal tumors are not benefited anatomically as a rule. We have had one case of a large subperitoneal fibroid—that of Emma Howard—sent to us by the County Medical Society for observation, which has been punctured more than a dozen times through the vagina without any apparent diminution in the size of the growth and without any very decided change of symptoms. Locomotion is still difficult and painful. This was an unfortunate test case, because, in the nature of things, subperitoneal growths being so far out of reach resist the action of the current, and because, too, the patient's surroundings were most lamentable. She is a type of absolute grinding poverty. She lives in the midst of filth, is insufficiently nourished, and drinks to excess. Great confidence in the merits of any therapeutic measure should not weaken our honesty in the recapitulation of results and details. In this case Dr. Massey has tried, on his own responsibility, electrolytic puncture with three needles through the attenuated abdominal parietes. We all know that statistics are much against this mode of treatment, and I am not yet convinced that there has been any apparent diminution of the gross bulk of this tumor. It has changed its form from a prominent dome-like swelling to a spread-out, lobulated, lateral mass, somewhat lower down in the pelvis. This is all, while abdominal puncture

theoretically might be considered proper, yet the results of other operators are against its use. Where the abdominal walls are as thin and transparent as they are in the case of Emma Howard, where the intestines are not overlying the tumor, and where the bladder is at a safe distance, I do not see why abdominal puncture may not be given a further hearing. All of our cases of fibroid were made comfortable despite the symptoms, notably that of Mrs. Clarke, who has a left lateral fibroid low down, and who says that punctures are the only things that give her relief from the symptomatology characteristic of such tumors. No tumors have disappeared; two—those of Hester Wilson and Mrs. Clarke—are somewhat reduced in size. Under better hygienic conditions and with regular treatment, I feel sure that we should have better results than it is possible to reach in a clinic. Many of these cases came very irregularly for treatment and are not under constant observation, and all of those women are badly nourished and very improperly cared for. Small intramural tumors, that are hard and not very painful, and that are taken in hand as soon as they are noticed, always do well under the *buried* negative puncture, and I have reason to believe may be made to disappear, although I have never seen such a case myself.

Inflammatory conditions of the adnexæ, old-fashioned cellulitis, some old chronic forms of salpingo-ovaritis, demand the greatest possible care and dexterity in their management. Of the very first importance is *accurate diagnosis*. It is a *sine qua non* of success that the electro-therapeu-

tist should be a thoroughly competent gynæcologist if he intend limiting his practice to the diseases of women. This knowledge can only be acquired after years of patient work in large clinics where the material is ample, and it would be well for the science and art of medicine if a more enlightened view of pathology should be conjoined to it. We ought to know all about the processes giving rise to abnormal conditions, so that we may have a clear conception of the limits and degree of acute inflammations and of the nature and extent of degenerations. Otherwise we grope in the dark, and our labors will be in vain. I do not consider myself at all an exception in saying that pathology is far too commonly neglected. Now, in acute cases of disease of the adnexa in the acute form, the mere introduction of a sound in the most competent hands is apt to create mischief. Not only is the lining membrane of the tubes in a hyperæmic and hyperæsthetic condition, but the whole endometrium is suffering, and it is certainly bad practice to resort to any measure which will intensify such pathological processes. Even in some chronic states this argument may hold true. I believe that the reported cases of active inflammation of the peritonæum after the application of an intrauterine current have been so caused. I have recently had one case myself. I say it to my shame, for I knew better, and I operated much against my better judgment, and my patient had a fight for life for many weary weeks. I offer it not at all as an excuse to say that a student who examined this woman before treatment was very rough in his examination and apparently

quite ignorant of the nature of such inflammations, and that his finger gave the woman intolerable pain. It was a bad case of salpingo-ovaritis, in which I advised surgical intervention, because I feel sure that nothing but the knife would give permanent relief. But the patient would have none of it. I gave her one application within the uterus of 30 ma., which was well tolerated, but it awakened the fires at once, and I had a hard battle for eight weeks. It has taught me a lesson, and I am only sorry that such lessons must seemingly be learned through such experiences only. Hereafter I shall always inaugurate the treatment in such cases by vaginal applications of great delicacy, until I am satisfied that the patient's uterus will be tolerant of a foreign body, and in all cases of extremely tortuous or constricted tubes I shall decline to interfere. I will yield to no fellow of this association in my firm belief in the value of electricity in gynæcology. I am as ambitious for it as any one can be, but I realize that incompetence, immoderate enthusiasm, and faulty differentiation are snags to be avoided. I know that electricity is employed in the delicate diseases of women by those who have not the requisite education and experience or the modesty for its successful employment. Ignorance is always blatant. Knowledge and modesty go hand in hand. I repeat what I have said, time and time again, that fatal complications do not happen to competent electro-gynæcologists, and I desire to refer any one interested in the subject to the report of the commission appointed by the Academy of Medicine of Paris, to investigate the fatal results in the practice of electro-gynæ-

cologists, which will be found in the *Revue Internationale d'Electrothérapie* for the month of July of this year.

Now as to the question of adhesions—I may not refer to the statement of a Western surgeon, that he found extensive adhesions under the inactive electrode, in a tumor upon which he operated, because this is too ludicrously unscientific to be argued. But I would ask: How may any surgeon define exactly the nature and amount of the adhesions before he opens the abdomen? How, then, shall he say that punctures exaggerate the adhesions? Any inflammatory process going on in the pelvis will be followed by some sort of effused lymph, which may become organized as an adhesion. In fact, if my memory serve me rightly, almost all tumors that I have seen operated upon were complicated with adhesions to a greater or less extent, and these, too, happened in countries where electricity had never been employed. The thoughtful student will see at once that such an objection cannot possibly hold. With the exception of the case which I have cited, we have had no bad results in our clinic. Nothing untoward has happened. One interesting case came to us from Dr. Thomas, of New York. The late Dr. Schroeder, of Berlin, diagnosed an exudate, so did Carl Braun, of Vienna. Dr. Joseph Price, of this city, opened the abdomen, but did not complete the operation, because he did not have the patient's permission to do a hysterectomy. Dr. Thomas diagnosed an intramural fibroid. The woman is exceedingly fat, the vagina long, and an exact diagnosis is arrived at with difficulty. There is appar-

ently a small tumor, but there is also an exudate, through which one can make out the tumor. The left lateral fornix is filled up with a boggy mass, extremely sensitive to the touch; the tube cannot be felt, and I am not sure that I made out the ovary on that side. She has frequent attacks of severe pelvic pain. Coition is always painful. At her menstrual periods she has also very great suffering. We have been treating her unsuccessfully with vaginal applications. We now commence the intrauterine application, because I find that a sound is well tolerated.

There is another subject which I would touch upon. We are overinclined to judge of the work of surgeons engaged in the special department of abdominal surgery, either from an inadequate observation of the general work of a hospital, or from a study of those cases only which come under our personal observation, or from the discussions in medical societies of prejudiced people, or, worse still, one's conclusions may be drawn from the unsound reasoning of a one-idea personality. I firmly believe that many tubes and ovaries are removed without sufficient cause, but these instances are not often out of the record-book of those who are competent to the practice of abdominal surgery, but usually are the belongings of a young ambition that is anxious to climb. Surgery is handicapped with incompetent practitioners, just as our own specialty is, and it is not one whit more logical to lay all of the miserable failures and mistakes of such as these at the door of honest surgery than it is for surgeons to conjure up all sorts and conditions of doubts, and to hold the

responsible intelligences among electro-therapeutists responsible for engendering them. We must remember that eminent surgeons see a class of cases, and those in large numbers, that rarely, if ever, come to smaller clinics—cases in which I am satisfied that nothing but operative interference could be of the least service. So we may not wonder that they, the surgeons, arise in their wrath, when lesser lights, who know little or nothing of such aggravated forms of disease, dispute the necessity of operating.

The cases that I have recently seen operated upon by Dr. Joseph Price were those of enlarged constricted tubes, an abscess being, in fact, between each constriction, with an abscess in the ovary. Electricity could do nothing in any of these patients. Neither would an expectant plan of treatment be of the least service. Electricity would be most pernicious, because of the occlusion of the lumen of the tube. Puncture would be of no service, because only one pus pocket could be reached. Dr. Price has had a great number of such patients, while in our clinic we have seen only one. I know that there are now, and always will be, cases which will not be benefited by electricity, and one of our greatest dangers is the overclaiming of young and restless men among us, and the unequivocal condemnation of honest, intelligent surgery, by those who know little of either abdominal surgery or electro-therapeutics. We will

gain nothing but enlarged advertising by the loss of dignity and self-respect that must come from the unseemly debate that sometimes happens in our medical societies. Personalities are offensive, and are not arguments. This applies equally strongly to the surgeons who seek to travesty one of the greatest advances of modern times, or of any time, in conservative surgery.—Honest surgeons do not rail at us, but they do object to inexperienced gynæcologists and unlettered electro-therapeutists claiming marvels for a method of which they can know little or nothing. And they have a right to object to the criticism of men who know nothing of pathology. I deprecate, with all my soul, the tone of recent discussion in special societies, and I will none of it. I shall keep on doing my work in electro-therapeutics in the best way that I can, and I expect surgeons to believe that I am acting intelligently and conscientiously. I have served a long apprenticeship both here and abroad—quite as long as many of them—and I say it with modest intent, I feel quite as competent to judge of the necessary treatment in certain cases as they are. They must not impugn my motives; they cannot impugn my intelligence. I know that a study of electricity is fraught with difficulty, and is not to be had for the asking, and I know, too, that there are very few operating surgeons who know anything about it. Therefore they are not competent witnesses.

A Review of Forty-eight Cases of Abdominal Surgery.¹

BY CLINTON CUSHING, M.D.,
OF SAN FRANCISCO,

Professor of Gynecology in Cooper Medical College.

GENTLEMEN: Another year has rolled around and brought with it the failures and successes, the anxieties and satisfactions and the almost invaluable experiences which attend surgical operations involving the peritoneal cavity. The object of this communication is to set before you personal opinion, based on my own observation, rather than a digest of the late literature on the subject. The accompanying tables comprise all the abdominal sections that I have made during the past year and, as will be seen, include a variety of affections. Further experience convinces me that a properly managed private hospital will give better results in abdominal surgery than where patients are treated in their own homes, in boarding-houses and hotels, or in large general hospitals, for the surgeon has more perfect control of the environment, the nurses and the patient.

No case, however desperate, has been refused operation except the two following:

The first was a bad one of double pyelitis, the diagnosis being confirmed by catheterizing each ureter and securing urine direct from the kidney without its entering the bladder, after the method of Pawlick.

The second was a case of advanced sarcoma of the pelvic cavity in a man.

There has been no disposition to select favorable cases for operation.

Under the head of "Abdominal Sections for the Removal of Ovarian Tumors," the first case was of unusual interest.

The patient was 54 years of age, and had given birth to one child thirty-six years before. She was poor and obliged to earn her own living and to support her invalid son.

She applied at the clinic of Cooper Medical College on account of her inability to do further work. Upon examination it was found that she had a complete procidentia of the uterus and vagina and bladder outside of the vulva; the left ovary was calcified and about the size of a hen's egg, and lay in Douglas's pouch entirely outside the vulva. The right ovary was cystic and about the size of a child's head.

I placed her in the French Hospital, denuded the anterior wall of the vagina the entire length, the surface of denudation being an inch in width, the edges of which were united with silkworm gut, this procedure much lessening the calibre of the vagina. The uterus and ovary and bladder were then returned into the cavity of the pelvis and the perinæum repaired and closed firmly up to the urethra. The abdomen was now opened and the calcified ovary removed, as was the cystic tumor of the right ovary; the fundus of the uterus was now stitched

¹ Read at the November meeting of the San Francisco Obstetrical Society.

to the anterior abdominal wall with two deeply placed sutures of silkworm gut.

The convalescence was uninterrupted except by a stitch-hole abscess, and she is now, one year later, in excellent health. The uterus retains its position, and she is able to earn her own living, the only fault being a small ventral hernia, doubtless due to the weakening of the line of incision by the stitch-hole abscess.

Case 2 of the same table illustrates the value of free douching and drainage. She was 34 years of age and had two large, suppurating, colloid cysts of the right ovary. There were many and firm adhesions, and in separating them the sacs broke down and the abdomen was flooded. After ligation of the pedicle, large quantities of hot water, with hydronaphthol, were poured into the cavity of the abdomen and then squeezed out, and this process was repeated until the water returned quite clear. A drainage tube was inserted and allowed to remain for forty-eight hours, when it was removed, after which the convalescence was uninterrupted.

Case 3 had been supposed at one time to be an enlarged and retroflexed uterus, and a digital examination certainly gave that impression, but a bimanual examination and the use of the uterine sound demonstrated that we had to deal with an elastic tumor in Douglas's pouch independent of the uterus. An ovarian cystic tumor, the size of a small cocoanut, was wedged in the pelvis, interfering seriously with the function of the rectum and crowding the uterus upward and forward. The removal was not difficult and the recovery uninterrupted.

Case 5, in a young girl of 19, was a

large ovarian cyst reaching to the ensiform cartilage. The tumor was symmetrical and simulated a pregnancy of nine months, the point of interest being irregular contractions of the abdominal muscles, which gave the impression to the hand of the movements of a foetus. The existence of a firm hymen with a small orifice and the absence of any placental bruit or sound of the foetal heart made the case sufficiently clear and warranted the abdominal section. The tumor proved to be a simple ovarian cyst.

Cases 6 and 7 are good illustrations of the difficulty attending the diagnosis of abdominal tumors. In both cases we had to deal with a fibroid enlargement of the uterus with profuse hæmorrhage and a rapidly increasing ovarian cystic tumor, which seemed to be a part of the uterus so far as could be judged from examination. The diagnosis in both cases was a probable fibro-cystic tumor of the uterus. In cases of this kind, where the ovarian cyst is firmly attached to the uterus, it must always prove a difficult thing to make an accurate diagnosis without an abdominal section. In both cases the ovaries were removed and both uterine arteries ligated. It is too soon yet to judge of the effect of the operation on the fibroid tumors. In Case 7 the uterus was curetted and the cervix and perinæum repaired at the same sitting.

Under the head of "Abdominal Section for Removal of Uterine Appendages, not the Seat of Tumor," Case 1 gives us a history that, to say the least, is most encouraging. The patient was 24 years of age, had pelvic abscess six months before, which was

opened in the left groin by a surgeon. The abscess failed to heal, and the general health was getting daily worse. The abdomen was opened, pus tubes removed, and the fistulous tract in the groin thoroughly mopped out with a mixture of equal parts of Churchill's tincture of iodine and carbolic acid. Convalescence was uninterrupted, and the fistulous tract promptly healed. Several weeks later the fistula reopened, and now an examination with the microscope showed the discharges to contain the bacilli of tuberculosis. The patient also had a troublesome, hacking cough. She was placed under the care of Prof. J. O. Hirschfelder, who at once began the subcutaneous injections of Koch's lymph, and afterward used in the same manner cantharides and iodine. Under this treatment the improvement was steady, the fistula healed, and now, a year later, she is in excellent health. Surely the practice of medicine and surgery is making progress when we can report such a case as this.

Case 3 of this table illustrates a proposition, the truth of which is conceded by nearly all operators. A woman, 30 years old, with one child and one miscarriage, had peritonitis three years ago, following childbirth, since which time she has been an invalid. The uterus was retroverted and fixed by adhesions. The tubes and ovaries were prolapsed and very sensitive to the touch. She had had much local treatment with glycerine tampons and the use of iodine, but without any good result; and, while her general appearance would indicate a fairly good state of the general health, she was extremely hysterical. The abdomen was opened, the adhesions broken up,

the ovaries and tubes removed, and the fundus of the uterus fixed to the anterior abdominal wall. The recovery from the operation was uninterrupted. The uterus retained its normal position, but the pains about the pelvis still continue, and the hysterical symptoms have been but little relieved. This history corroborates the experience of many who have reported similar cases. It proves that the morbid conditions of the mind and of the nervous system are not always relieved by the removal of diseased ovaries and tubes.

Case 5 was about as bad as could well be imagined. Repeated attacks of pelvic peritonitis had occurred, ending in pelvic abscesses, which had been in existence for one year, with the small intestines firmly agglutinated together, forming a roof over an amount of pelvic disease that was appalling. In separating the adhesions large pus cavities were opened and a flooding of the peritoneal cavity with very offensive pus occurred. That the woman should die of septicæmia on the sixth day was not surprising.

Case 9 was one of recurrent pelvic peritonitis where the prolapsed ovaries and tubes were firmly adherent. The removal of the ovaries and tubes gave no relief from the symptoms. Six months later she developed cancer of the rectum.

Case 14 is a good example of a plan that I have heretofore pursued in the treatment of diseased ovaries and tubes. The uterus was retroverted, firmly fixed and very tender to the touch; the left ovary very much enlarged and extremely tender. The pain in the pelvis was constant; the menstrual period was attended with great distress. The most thorough

and painstaking efforts were made, extending over eight months, to replace the uterus and to lessen the pain and inflammation by local treatment, with practically no good result. At the end of that time the abdomen was opened, adhesions broken up, tubes and ovaries removed and the uterus stitched to the anterior abdominal wall. The results were all that could be desired. This is the plan that has been pursued at the outset in all cases except the very bad ones.

Case 22 should not have died. It was a case of accidental hæmorrhage. The ovaries were prolapsed and very cystic and tender to the touch. I repaired the perinæum and removed both ovaries and tubes. The following evening the pulse went up rapidly till it reached 145. The abdomen was opened and the peritoneal cavity found filled with blood. The bleeding had occurred from the stump where the right ovary had been removed. Another ligature was then applied, the patient dying on the fifth day from peritonitis and exhaustion. This was my second experience of losing a case from accidental hæmorrhage. Either the ligature had slipped, or was not tied sufficiently tight.

Case 25 is of more than usual interest. Three years before, this patient had pelvic peritonitis and abscess; the abdomen was opened by one of the leading surgeons of New England, but, owing to the large number of adhesions, he was enabled only partially to remove the diseased pelvic organs, the left Fallopian tube and ovary and a part of the right Fallopian tube. Four months later the patient was attacked with severe convulsions, and a sinus which had opened soon after the operation, in the abdominal wound, and commu-

nicated with an opening in the vagina which was made subsequently, discharged a large amount of pus in both directions continuously. Six months later, on January 10, 1891, two gynecologists, well known to the surgical world, reopened the abdomen, in order to cure the sinuses, if possible, and to relieve adhesions.

The abdominal sinus was dissected out down to the side of the uterus, tied off and cauterized. The very extensive abdominal adhesions were separated, and an abscess low down in the right side of the pelvis was opened and drained. It was not deemed advisable to prolong the operation by further search for the right ovary or its remnants. She came to California last April with health in fair condition. In July, '91, the convulsions reappeared with great severity. Upon examination a tender elastic mass was found in Douglas's pouch. This was markedly increased in size at the time of menstruation, and was believed to be the right ovary.

The abdomen was opened on September 3, and after breaking up many adhesions between the small intestines and the pelvic organs, the patient was placed in the Trendelenberg position, and the right ovary, much enlarged and cystic, was found completely buried in lymph at the bottom of Douglas's pouch. This was removed, and the patient made an uninterrupted recovery, with the exception of a convulsion during the third week. She is now free from pain, and there has been no return of the convulsions. Menstruation has occurred once since the operation, but it is believed that this function will now cease.

Case 26 was an extremely bad one.

The abdomen had been opened fourteen months before for the relief of pyosalpinx and some diseased tissue removed. When I saw her she was much emaciated, with a fistula discharging pus into the vagina, and another discharging through the anterior abdominal wall above the pubes. The abdominal section resulted in the breaking up of many adhesions and the removal of both ovaries which were the seat of abscess. She died from shock at the end of twenty-four hours.

Under the head of "Abdominal Section for Uterine Fibroids," Number 1 illustrates how easily a subperitoneal fibroid can be enucleated. The tumor, a soft fibroid, grew from the posterior wall of the uterus and was apparently a part of this organ. The patient was placed in the Trendelenburg position and the intestines protected by sponges, the fundus seized with a volsellum and drawn up out of the pelvis; the peritonæum was laid open and the tumor peeled out with the finger-tips without difficulty. The opposing surfaces from which the tumor was removed were drawn together with chromicised catgut. Pelvic abscess formed at the site of the operation, eventuating in a fæcal fistula. Perfect recovery ensued at the end of six weeks.

Case 2 was a remarkable example of multiple fibroids. There were four subperitoneal pedunculated fibroids, and seven subperitoneal non-pedunculated fibroids, the tumors varying in size from a pigeon's egg to that of a large cocoanut. The pedunculated fibroids were ligated and removed, and the others enucleated and the uterine arteries ligated, to prevent the development of additional growths. Recovery was uninterrupted.

Case 3 was a large interstitial uterine fibroid in a woman who was very anæmic from excessive loss of blood. The operation was done according to Schroeder's method. The woman died at the end of eighteen hours.

The two cases of vaginal hysterectomy were both done for cancer of the cervix. Pressure forceps were used instead of ligatures. In Case 1 the disease returned in three months, and she has since died. Case 2 is in excellent health. I would here take occasion to state that the case I reported two years ago, where I extirpated the uterus for epithelioma of the cervix and sarcoma of the body of the uterus, has written me in the past few days that she is in excellent health, without any return of the disease.

Under "Laparotomies for Other Diseases of Abdominal Organs," Case 1 was moribund from suppurative peritonitis. Upon opening the abdomen, the omentum was found gangrenous and the stench was horrible. The exploratory incision and the removal of part of the gangrenous omentum probably did not hasten the death, which occurred twelve hours afterward.

Case 6 was a tubal pregnancy of about six weeks. The tube ruptured and peritonitis supervened, and upon opening the abdomen it was found filled with blood-clots. Both tubes were diseased and adherent from former attacks of pelvic peritonitis. The uterus was retroverted and fixed. The diseased tubes and ovaries were removed, the adhesions broken up, and the fundus stitched to the anterior abdominal wall. Uninterrupted recovery followed, and the uterus retained its normal position.

Case 10 was a suppurating kidney

of four months' standing. The right kidney was involved and was sufficiently enlarged to extend two inches to the left of the median line. A free incision was made, extending from the edge of the lumbar muscle just below the last rib, downward and forward nearly to the linea alba, directly over the prominent part of the tumor. The peritonæum was opened, the hand introduced and the condition of the left kidney ascertained. This being found normal, the adhesions between the diseased kidney, which was nothing but a large sac of pus, were broken up, and the pedicle, which consisted of the renal vessels, ligated. In separating the adhesions, the sac was partially ruptured and some pus flowed over the site of the wound. Two drainage tubes were introduced, but were removed on the third day, the patient making an uninterrupted recovery, returning to her home at the end of the third week.

THE MANAGEMENT OF ADHESIONS.

A very important part of the management of cases of abdominal surgery is the treatment of adhesions, for, when they are great in number and are firm and well organized, the violence done and the time required to dispose of them add greatly to the danger of the operation. Experience here is of immense advantage in order to know how far one may go in breaking up adhesions without risk to the organs involved. Where the adhesions are somewhat pliable, they can be broken up rapidly and safely with the fingers, and, in many cases, it is surprising what an amount of work can be done in a few minutes without serious damage. In a case of pelvic abscess or pyosalpinx, where everything

is matted together, I find that the better way is to go steadily on in the separation of the adhesions, being governed by the sense of touch, and paying no attention to the bleeding until the work is done, when, with compression forceps and with ligatures, if needed, the oozing is controlled. In this way much time is saved, and the abdomen sooner closed and the ether sooner withheld, two very important elements. Unless the adhesions are unusually large and firm, there is usually but little difficulty in controlling the hæmorrhage by packing the pelvis with sponges wrung out in hot water and left *in situ* until the sutures in the abdominal wound are introduced.

LIGATURES AND SUTURES.

When there is no pus with no infection of the peritonæum, I can conceive of no better ligature than the one I here show you—heavy, loosely twisted, Chinese silk which I have had made at the silk factory to order. The advantages of this ligature are, first, that it is very strong, and next, that, being soft, it does not cut the tissues to which it is applied, and lastly, the knot does not slip, as is the case with a hard twisted thread. To make it antiseptic I drop it into a solution of 1 to 500 of corrosive sublimate in pure alcohol till it becomes thoroughly soaked. Where the peritonæum has become infected with pus or filth, chromicised catgut is a better material, for it is sufficiently durable to answer every purpose and is not so likely to be followed by fistula.

DRAINAGE.

This question I believe to be an important one. When the peritoneal cavity has become contaminated with

pus which cannot be thoroughly removed, or where many adhesions have been broken up, or where some oozing of blood is going on, drainage is imperative. It is true that some unpromising cases go on to recovery without drainage, but when it is indicated as above, there can be no question but that the patient is safer with it than without it. The rule laid down to my students is that whenever the question arises whether drainage should be used or not, always use it. At the end of forty-eight hours, if the discharge of serum and blood has ceased and no pus exists, the tube is removed. So firmly am I convinced of the value of drainage that I would refuse to operate in bad cases unless I could have this advantage, if needed.

FLUSHING THE PERITONEAL CAVITY.

Where there has been extensive soiling of the peritoneal cavity with pus from the breaking of an abscess in the attempt at removal, I apply catgut ligatures where required and sponge out the pus and blood. I then flush out the abdominal thoroughly with a saturated solution of hydronaphthol in hot water, removing thereby a quantity of blood-clot and debris that is often surprising. This is repeated until the water returns clear, and all the water that cannot be squeezed out is removed with sponges, and the pelvic cavity packed with sponges squeezed out in hot water and left *in situ* while the sutures are being placed in the abdominal wall. I have never regretted flushing out the abdominal cavity, and I can see no objection to it.

ANTISEPTICS.

Further observation convinces me

that all abdominal surgery should be conducted on the strictest antiseptic principle. Certain I am that the most expert operator will lose cases, if he ignore the germ theory, that otherwise would have been saved. We now know perfectly well that the peritonæum is capable of digesting quantities of blood and rubbish if only it be not infected with septic material. I still continue to use hydronaphthol as an antiseptic and have every reason to be satisfied with it; but this does not prevent me from taking every precaution as to cleanliness independently of the antiseptic remedy.

ANÆSTHETICS.

Squibb's ether has been universally used, and I would not willingly give it up for any other anæsthetic, believing, as I do, that, in any case where the question of shock is involved, and, particularly, if the operation be a prolonged one, we have no anæsthetic of equal value.

MULTIPLE OPERATIONS AT ONE SITTING.

For the past two years I have frequently done several operations at one sitting. I have repeatedly repaired the cervix and perinæum and curetted the cavity of the uterus before opening the abdomen for the removal of pus tubes, and afterward stitched the fundus of the uterus to the anterior abdominal wall with silk-worm gut, and have thus far seen no cause to regret doing so.

ELEMENTS OF SUCCESS IN ABDOMINAL SURGERY.

When we consider the number of surgeons who essay intraperitoneal operations, it is remarkable how few have achieved exceptional success as

judged by modern standards. Doubtless, familiarity with the work is an important factor, but this means abundant material. Good judgment as well as skilful diagnosis is also necessary, but back of and beyond this there is something else. Not every man can paint a good picture; not every man can write good music; not every man can be a good mechanic; and no amount of opportunity and training will make all who attempt it successful in surgical matters. There must be a combination of certain qualities of the hand, the eye and the brain which are inherent in the man, and then these qualities must be trained and sharpened by adversity to success, doubly dear when achieved. There must be courage that never flags, and there must be resources of a kind to meet unexpected emergencies. It has been my good fortune to witness the operations of nearly all the leading surgeons who practise abdominal surgery in the large cities of this country and of Europe, and also to discuss with them some of the principles which they advocate. The

point which most attracted my attention was the simplicity of their procedure—few instruments, few assistants, few appliances. All seemed so simple and easy, but I knew full well the sea of trial they were forced to wade through before this simplicity and perfection was arrived at. Thomas Keith, of Edinburgh, one of the most successful surgeons living, on a winter night six years ago, told me the story of his trials during thirty years. It was a never-ending fight for better ways and means, with death and disaster staring him in the face at every step. His story was like a romance, but the struggle has well-nigh destroyed him, for his health is irretrievably broken. The newer generation of abdominal surgeons have much to be thankful for; and it should never be forgotten, in our present success, what we owe to the courage and devotion of such men as McDowell, Sims, Atlee, Thomas and Peaslee; and of Keith, Tait and Spencer Wells; and Schroeder, Martin, Winkel and Leopold and a host of others on the Continent.

ABDOMINAL SECTIONS FOR THE REMOVAL OF OVARIAN TUMORS.

No.	Name of Medical Attendant.	Date of Operation.	Age	Married or Single	Number of Children	Size and Nature of Tumor.	One or both Ovaries	Adhesions.	Treatment of Pedicle.	Drainage	Complications.	Hospital or Private	Result.	Remarks.
1	Dr. C. Cushing, San Francisco	Nov. 5, 1890	54	M.	One	Cystic tumor of right ovary, size of child's head.	Both	Yes.	Tied and dropped.	No.	Complete procidentia of left ovary, uterus and bladder, outside of vulva.	Hospital.	Recovery.	Left ovary cauterized, stitched fundus of uterus to anterior abdominal wall, and repaired perineum.
2	Dr. Robertson, Ione	Jan. 19, 1891	34	M.	Two	Cystic tumor of right ovary, suppurating. Size of eight months' pregnancy.	One	Yes.	Tied and dropped.	Yes.	None.	Hospital.	Recovery.	Sac broke down in removal; abdomen freely washed out with hydro-naphthol and water.
3	Dr. J. D. Whitney, San Francisco	Feb. 9, 1891	30	M.	None	Cyst of right ovary, size of cocoon.	One	Many and firm.	Tied and dropped.	No.	None.	Hospital.	Recovery.	
4	Dr. Cameron, Red Bluff	April 6, 1891	19	S.	None	Large cyst of left ovary.	One	None.	Tied and dropped.	No.	None.	Private Hospital.	Recovery.	
5	Dr. Worthington, Los Angeles	Sept. 5, 1891	19	O.	None	Cyst of left ovary, size of uterus at full term of pregnancy.	One	None.	Tied and dropped.	No.	None.	Hospital.	Recovery.	Menstruation had been absent seven months; returned three months after operation.
6	Dr. C. E. Cooper, San Francisco	Sept. 14, 1891	52	M.	Eight	Cystic tumor of left ovary, size of eight months' pregnancy.	Both	None.	Tied and dropped.	No.	Uterine hemorrhage excessive for 3 years; intramural fibroids.	Hospital.	Recovery.	Ligated uterine arteries.
7	Dr. C. Cushing, San Francisco	Sept. 28, 1891	36	M.	Two	Cyst of left broad ligament, size of child's head.	Both	None.	Tied and dropped.	No.	Laceration of cervix and perineum, intramural fibroids of uterus.	Hospital.	Recovery.	Repaired laceration of cervix and perineum.

ABDOMINAL SECTION FOR UTERINE FIBROIDS.

No.	Name of Medical Attendant.	Date of Operation.	Age	Married or Single	Number of Children	Pathological Condition or Symptoms necessitating Operation.	Duration of Disease	Nature of Operation.	Adhesions	Drainage	Hospital or Private.	Recovery or Death	Complications before and after.	Remarks and Subsequent History.
1	Dr. W. F. Cheney, San Francisco	Oct. 6, 1890	21	M.	None	Elastic tumor in Douglas pouch, causing much pain.	18 mos.	Abdominal section and enucleation of tumor from posterior wall of uterus.	None	None	Hospital	Recovery	Operation followed by pelvic abscess and fecal fistula.	Perfect recovery.
2	Dr. F. Bazar, San Francisco	Feb. 24, 1891	33	M.	None	11 subserous uterine fibroids.	2 years	Four pedunculated fibroids ligated; seven non-pedunculated fibroids enucleated ligated the uterine arteries.	None	None	Private	Recovery	None.	Cure perfect.
3	Dr. J. S. Adams, Oakland	June 18, 1891	44	M.	Two	Large intramural fibroid. Excessive metrorrhagia.	7 years	Amputation of tumor and uterus; ligation of uterine arteries; Schroeder's operation on stump.	None	None	Private Hospital	Death	None.	Death from shock and exhaustion from prev's loss of blood.

ABDOMINAL SECTION FOR OTHER DISEASES OF ABDOMINAL ORGANS.

No.	Name of Medical Attendant.	Date of Operation.	Age	Married or Single	Number of Children	Pathological Condition or Symptoms necessitating Operation.	Duration of Disease	Nature of Operation.	Adhesions	Drainage	Hospital or Private.	Recovery or Death	Complications before or after.	Remarks and Subsequent History.
1	Dr. W. T. Garwood, San Francisco	Dec. 9, 1890	58	M.	Two	Epithelioma of cervix uteri.	3 mo's.	Complete extirpation.	None	None	Private Hospital	Recovery	None.	Disease returned in three months. Death after ten months.
2	Dr. H. W. Felton, Salinas	May 26, 1891	55	M.	Nine	Epithelioma of cervix uterine.	Unknown.	Total extirpation.	None	None	Private Hospital	Recovery	Vesico-vaginal fistula on 6th day; operation on 20th day. Recovery.	No unfavorable report since operation.
3	Dr. L. Bazel, San Francisco	Oct. 19, 1890	24	S.	One	Suppurative peritonitis.	One week.	Exploratory incision; removal of gangrenous fallopian tubes and ovaries and portion of omentum	Yes.	Hospital.	Hospital.	Death.	Pyo-salpinx preceding attack of peritonitis.	Bad case of suppurative peritonitis, with many tissues in state of gangrene. Patient died 16 hours after operation from exhaustion.
4	Dr. D. L. Ross, Redwood City	Feb. 17, 1891	30	M.	Three	Laceration of cervix and perineum. Prolapse of both ovaries. Enlarg'd and retroflexed uterus.	3 years.	Repair of perineum and cervix; fundus of uterus stitched to anterior abdominal wall.	No.	Private Hospital.	Private Hospital.	Recovery.	None.	Excellent cure.
5	Dr. J. M. Griffith, San Francisco	June 10, 1891	27	M.	None	Prolapse of both ovaries. Retroversion of the uterus.	3 years.	Stitched uterus and ovaries to anterior abdominal wall.	No.	Private Hospital.	Private Hospital.	Recovery.	None.	{ Operation successful. Pain about rectum and pelvis not relieved.
6	Dr. C. E. Cooper, San Francisco	June 23, 1891	28	M.	Three	Malignant stricture of rectum.	1 year.	Artificial anus in left groin.	No.	Hospital.	Hospital.	Recovery.	None.	
7	Dr. C. Cushing, San Francisco	June 29, 1891	33	M.	None	Retroversion and fixation of uterus, with great pain.	9 years.	Separation of adhesions; fundus stitched to anterior abdominal wall.	No.	Hospital.	Hospital.	Recovery.	None.	
8	Dr. H. Gibbons, Jr., San Francisco	July 1, 1891	38	M.	None	Ruptured tubal pregnancy.	1 month.	Removal of diseased ovaries and tubes and many blood clots; stitched uterus to abdominal wall.	Yes.	Private.	Private.	Recovery uninterrupted.	None.	
9	Dr. R. Caldwell, San Jose	July 30, 1891	29	M.	Four	Laceration of cervix and perineum; retroversion and fixation of uterus; prolapse of left ovary.	2 years.	Repair of cervix and perineum; separation of adhesions; stitched uterus to anterior abdomen wall.	No.	Private Hospital.	Private Hospital.	Recovery.	None.	
10	Dr. C. E. Cooper, San Francisco	July 20, 1891	33	M.	One	Retroversion and fixation of uterus; laceration of perineum and prolapse of left ovary.	10 years.	Right round ligament shortened; stitched fundus of uterus to anterior abdomen wall; perineum repaired.	No.	Private Hospital.	Private Hospital.	Recovery.	Fistula in groin from buried stitch in round ligament.	Unable to find left round ligament.
11	Dr. C. L. Anderson, Santa Cruz	Sept. 8, 1891	19	S.	None	Suppurative tubercular peritonitis.	10 mos.	Laparotomy and drainage.	Yes.	Hospital.	Hospital.	Oct. 14th, improving.	None.	Abdomen contained one and a half gallons pus.
12	Dr. Jas. Simpson, San Francisco	Sept. 9, 1891	25	S.	None	Suppurating kidney; size of large coconut.	3 mos.	Abdominal section and nephrectomy.	Yes.	Private Hospital.	Private Hospital.	Recovery.	None.	Recovery complete and uninterrupted.

ABDOMINAL SECTION FOR REMOVAL OF UTERINE APPENDAGES NOT THE SEAT OF TUMOR.

No.	Name of Medical Attendant.	Date of Operation.	Age.....	Married or Single.....	Number of Children . . .	Pathological Condition or Symptoms necessitating Operation.	Duration of Disease	What Removed.....	Adhesions....	Treatment of Pedicle.....	Drainage.....	Hospital or Private.	Recovery or Death	Complications before or after Operation.	Remarks Effects of Operations upon condition requiring it.
1	Dr. Rosenstirn, San Francisco	Sept. 29, 1891	30	M.	One	Pyo-salpinx.	6 mos.	Both tubes and ovaries.	Many.	Tied and Dropped.	No.	Hospital.	Recovery.	Pelvic abscess opening in left groin. None.	Recovery perfect.
2	Dr. Gross, San Francisco	Nov. 6, 1890	25	M.	None	Pyo-salpinx.	1 year.	Both tubes and ovaries.	Many.	Tied and Dropped.	No.	Private Hospital.	Recovery.	None.	Stitched fundus of uterus to anterior abdominal wall.
3	Dr. Geo. Reynolds, Alameda	Nov. 8, 1890	30	M.	One	Pyo-salpinx, with prolapse and adhesions of ovaries in Douglas pouch.	3 years.	Both tubes and ovaries.	Yes.	Tied and Dropped.	No.	Private Hospital.	Recovery.	Several attacks of pelvic peritonitis.	Hysterical and nervous symptoms not relieved.
4	Dr. S. Assony, San Francisco	Nov. 10, 1890	17	S.	None	Pyo-salpinx, tubes prolapsed in Douglas pouch and adherent.	6 mos.	Both tubes and ovaries.	Universal.	Tied and Dropped.	Yes.	Private Hospital.	Recovery.	Severe previous attacks of pelvic inflammation.	Tubercular pus in tubes.
5	Dr. J. Parker, Salinas	Nov. 27, 1890	40	M.	One	Double pyo-salpinx.	1 year.	Both tubes and ovaries.	Universal.	Tied and Dropped.	Yes.	Private Hospital.	Died.	None.	Death on 6th day of septicaemia.
6	Dr. E. L. Paulding, Arroyo Grande	Nov. 29, 1890	34	M.	Four	Cystic ovaries; chronic salpyngitis; retroversion of uterus; laceration of cervix and perineum.	6 years.	Both ovaries and tubes	Many.	Tied and Dropped.	No.	Private Hospital.	Recovery.	None.	Repaired cervix and perineum and stitched fundus to anterior wall.
7	Dr. Walliser, San Francisco	Dec. 10, 1890	25	M.	None	Hydro-salpinx, size of turkey's egg, with great pain.	2 years	Right tube and ovary.	Firm	Tied and Dropped.	No	Private Hospital	Recovery.	None.	Cure.
8	Dr. Schaeffer, Telachaph	Jan. 2, 1891	28	M.	None	Chronic salpyngitis and ovaritis.	10 years	Both ovaries and tubes	Many	Tied and Dropped.	No.	Private Hospital.	Recovery.	Rapid action of heart due to disturbed condition of sympathetic nervous system.	Cure.
9	Dr. W. Tait, San Francisco	Jan. 22, 1891	33	M.	None	Ovaries and tubes prolapsed and adherent in Douglas pouch.	10 years	Both ovaries and tubes.	Many.	Tied and Dropped.	No.	French Hospital.	Recovery.	Developed cancer of rectum, six months later.	Had continued pelvic pain after operation.
10	Dr. C. Cushing, San Francisco	March 2, 1891	28	M.	Two	Pyo-salpinx.	10 years	Left ovary and tube.	Yes.	Tied and Dropped.	No.	Private Hospital.	Recovery.	Laceration of cervix and perineum stenosis of cervical canal.	Dilated cervix and curetted uterus and repaired perineum at same sitting.
11	Dr. L. C. Lane, San Francisco	March 5, 1891	24	M.	None	Chronic ovaritis and salpyngitis, following gonorrhea.	2 years.	Ovaries and tubes.	Many.	Tied and Dropped.	No.	Private Hospital.	Recovery.	None	
12	No medical attendant for some years.	March 12, 1891	38	M.	None	Prolapse and fixation of both ovaries; retroversion and fixation of uterus; chronic salpyngitis. Chronic salpyngitis and cystic ovary.	15 years	Ovaries and tubes.	Many.	Tied and Dropped.	No.	Private Hospital.	Recovery.	Repeated attacks of pelvic peritonitis before operation.	
13	Dr. C. Cushing, San Francisco	March 17, 1891	37	M.	None	Chronic salpyngitis and cystic ovary.	20 years	Both tubes and ovaries	None.	Tied and Dropped.	No.	Private Hospital	Recovery.	None.	Much improved in health but still suffering from nervous symptoms.
14	Dr. J. O. Hirschfelder, San Francisco	April 7, 1891	44	M.	None	Pyo-salpinx and cystic ovaries.	10 years	Tubes and ovaries.	Many.	Tied and Dropped.	No.	Private Hospital.	Recovery.	Retroversion and fixation of uterus.	Stitched uterus to anterior abdominal wall.

ABDOMINAL SECTION FOR REMOVAL OF UTERINE APPENDAGES NOT THE SEAT OF TUMOR.

No.	Name of Medical Attendant.	Date of Operation.	Age.	Married or Single.	Number of Children.	Pathological Condition or Symptoms necessitating operation.	Duration of Disease.	What Removed.	Adhesions.	Treatment of Pedicle.	Drainage.	Hospital or Private.	Recovery or Death.	Complications before or after Operation.	Remarks. Effects of Operation upon condition requiring it.
15	Dr. A. H. Taylor, San Francisco	April 21, 1891	23	M.	None	Suppurating hemato-salpinx.	1 year.	Right tube and ovary.	Yes.	Tied and dropped.	Yes.	French Hospital.	Recovery.	Peritonitis before operation.	Perfect recovery.
16	Mrs. Dr. Giddison, Salinas	April 25, 1891	30	M.	Three	Salpingitis and cystic ovaries.	12 years	Both tubes and ovaries.	Yes.	Tied and dropped.	No.	Private Hospital	Recovery.	None.	Excellent cure.
17	Dr. Edwards, Salinas	May 5, 1891	41	M.	Two	Ovaries prolapsed, adherent and cystic; peritoneum lacerated; hemorrhoids.	6 years.	Tubes and ovaries.	Many.	Tied and dropped.	No.	Private Hospital.	Recovery.	None.	Repaired perineum and removed hemorrhoids. Health restored.
18	Dr. C. Cushing, San Francisco	June 8, 1891	42	M.	Three	Double pyo-salpinx; retroversion and fixation of uterus.	5 years.	Tubes and ovaries.	Many.	Tied and dropped.	No.	Private Hospital.	Recovery.	None.	Stitched fundus of uterus to anterior abdominal wall. Restoration to health. Perfect recovery.
19	Dr. C. E. Cooper, San Francisco	June 13, 1891	23	S.	None	Double pyo-salpinx; acute pelvic peritonitis.	6 mos.	Tubes and ovaries.	Many.	Tied and dropped.	Yes.	Private Hospital.	Recovery.	None.	Very bad case.
20	Dr. Bailey, San Francisco	June 29, 1891	32	M.	Two	Double pyo-salpinx.	1 year.	Tubes and ovaries and vermiform appendix.	Many.	Tied and dropped.	Yes.	Private Hospital.	Recovery.	Adhesion of vermiform appendix to right ovary.	
21	Dr. Callandreau, San Francisco	July 2, 1891	27	M.	None	Pyo-salpinx.	18 mos.	Tubes and ovaries.	Yes.	Tied and dropped.	No.	Private Hospital.	Recovery.	Pneumo-thorax.	
22	No medical attendant	July 30, 1891	33	M.	Four	Prolapse and fixation of both ovaries; laceration of perineum.	3 years.	Both ovaries and tubes.	Yes.	Tied and dropped.	No.	Private Hospital.	Death from exhaustion.	Hemorrhage from stump.	Repaired perineum; abdominal hemorrhage. Opened abdomen following day. Put new ligatures on the stump. Recovery uninterrupted.
23	Dr. C. W. Gard, San Francisco	Aug. 10, 1891	25	M.	Two	Pyo-salpinx; peritonitis.	6 weeks	Both tubes and ovaries.	Very bad.	Tied and dropped.	Yes.	Private.	Recovery.	Laceration of small intestines closed by catgut sutures.	
24	Dr. B. F. Clark, San Francisco	Aug. 24, 1891	23	M.	None	Double pyo-salpinx.	10 weeks	Tubes and ovaries.	Universal.	Tied and dropped.	48 hrs.	Private Hospital	Recovery.	None.	Good cure.
25	Dr. C. E. Cooper, San Francisco	Sept. 3, 1891	25	M.	None	Right ovary cystic and buried in lymph in Douglas pouch.	3 years.	Right ovary.	Firm and Universal.	Tied and dropped.	Yes.	Private Hospital.	Recovery.	None.	Abdomen had been twice opened before, and unsuccessful effort made to remove ovary.
26	Dr. B. F. Clark, San Francisco	Oct. 1, 21, 1891	24	M.	One	Pelvic abscess opening into vagina and through anterior abdominal wall; both ovaries suppurating	18 mos.	Ovaries and Tubes.	Universal.	Tied and dropped.	Yes.	French Hospital.	Death.	Laceration of rectum and small intestine. Injury repaired with catgut.	Abdomen had been opened one year before by another surgeon. Patient did not rally from shock.

Third Report on the Progress of Obstetrics and Gynæcology in Germany.

BY DR. WINTER,

Instructor and Chief Assistant at the Royal Univ. Clinic for Women in Berlin.

IN recent times ovarian tumors have frequently been the subject of thorough investigations in Germany; a series of works have been published, which greatly extend our knowledge as to the microscopic structure of these tumors, and which considerably modify our views as to their origin. Especially in regard to our knowledge of *endothelioma* of the ovary, progress has been made by the works of Eckardt, Pomorski, and von Velitz. These tumors are extremely rare, and only five have as yet been reported in German literature; they have their origin in the endothelia of the bloodvessels and lymphatics, and therefore are characterized as intravascular or lymphatic. (Rolaczek has classed them up to the present time as angiosarcoma.) The tumor which was examined by Eckardt weighed 4,200 grammes (some 8½ pounds), and to the naked eye showed a tissue split in layers, which under the microscope showed thickly crowded conglomerates of cells, lying in a homogeneous connective tissue; these masses, without showing any lumen, were globular or tubular in form, with many anastomoses. On this account the tissue had a reticulated appearance; the cell-tubes were closely connected with the bloodvessels, and sometimes displayed vascular endothelia. Most of the small bloodvessels, instead of simple vascular endothelia, were lined by a thick layer of

cells in several strata, which were precisely similar to the cells of the tumor; the endothelia of the vessels are in this case, therefore, to be regarded as the point of origin of these reticulated anastomosing cell-tubes. The other ovary, which was not enlarged, was permeated everywhere by polynucleated cell-tubes, which anastomosed in the most varied manner, and within which cross-sections of capillaries were plainly displayed. Except these tumor-cells, there were no further vascular endothelia in the lining of the capillaries.

Pomorski examined a dermoid as large as a child's head. In the wall of this tumor at one place there was a thick layer of grayish-white medullary tissue, which was crossed by strands of connective tissue, and thereby divided into alveolar cavities. The latter were filled with epithelia, which were massed together, and in some places were arranged in cancrroid "pearls." The cells were not firmly attached to the wall of the alveoli, as in carcinoma, but passed over regularly into the intercellular substance, so that their origin from the connective tissue could be easily perceived. The beginning of this process of proliferation could be studied in the neighboring parts. In narrow spaces in the connective tissue, which are lined with epithelial cells, the latter are seen to be proliferating. They fill up the interstices and are transformed into

epithelial cells; some become giant cells; the cells, however, remain closely connected with the matricular tissue. Pomorski regards the endothelia of the interstices of the connective tissue as the point of origin of this form of tumor, and considers that it has its origin in an inflammatory proliferation.

Von Velitz examined a tumor of the size of the adult head, which was divided into lobes by septa which sprang from the capsule. Microscopically the tissue consists of fine cell-tubes which pass over into the connective tissue without any well-defined limit. The cells do not rest on a basic membrane, and therefore do not show the sharp boundaries of the epithelia, but pass over gradually into the connective tissue. The cell-tubes form bundles sometimes solid, sometimes hollow, which unite with many curves to form reticulated septa. Bloodvessels surrounded these cell-tubes very intimately. These endotheliomata form a peculiar class histologically, inasmuch as they do not originate from ovarian epithelium (Keimepithel) or from Graafian follicles, but have their point of origin either in the endothelia of the bloodvessels (Eckardt) or in that of the lymphatic spaces. They rather resemble sarcomata. Clinically they have a decidedly malignant tendency, but two of the women showed metastases, and in four others there was a pronounced cachexia. Strangely enough, extirpation of these growths offers great danger, for out of seven cases only four patients survived the operation—a great contrast to the favorable prognosis in cases of ovarian tumor.

Among the rarest tumors of the ovary are those which have been named

by Olshausen superficial papillomata, that is to say, small dendritic cauliflower excrescences, springing from the surfaces of the healthy ovary, growing rapidly and causing ascites; these tumors are very similar to those excrescences which spring from the inner surface of cysts and break through the outer surface, such as are found in papillary cystomata. The superficial papillomata are very rare, and only six cases have as yet been reported; none of these, however, throw any light on the genesis of these tumors. Frommel has examined a new case and has elucidated the histogenesis of these tumors. He extirpated two ovaries which showed the earliest inception of such papillomata. On one ovary was found a pediculated papilloma of the size of a pea, and a multitude of very minute bright-red wartlike structures, which rose just above the level of the ovary. In the other there were two papillomata as large as barleycorns. The microscopical structure of the large papillomata is a fibrinous structure which displays an irregular serrated surface, owing to numerous depressions in the superficial epithelium. The latter is cylindrical on the surface, as well as in the depressions, and especially at the base and at the deepest part of the depressions it shows distinct cilia. Small cysts which are likewise lined with ciliated cylindrical epithelium are scattered through the tissue. The other minute bright-red places also show an irregular surface caused by multiple deep clefts. All these carry a ciliated cylindrical epithelia. From these clefts there are lateral pockets between which the ovarian stroma arises in the form of minute papillary warts. Frommel

regards these depressions of the ovarian epithelium as the primary ones from which the little cysts, which are clothed with cylindrical epithelium, originate and afterward become shut off. He finds no cysts which have sprung from Graafian follicles, and supports the views of Sinéty, Malassez and Flaischlen in regard to their origin. In opposition to Frommel, two authors have very lately sought the point of origin of ovarian tumors, not in the superficial epithelium, but in the Graafian follicles. Steffek, Hofmeier's assistant, has studied the histogenesis of the tumors in nine cases, and recognizes the truth of Waldeyer's theory concerning the origin of the cysts from depressions of the superficial epithelium. He does not, however, admit that all tumors originate in this way, but seeks for their point of origin particularly in the Graafian follicles; notwithstanding the fact that the epithelium of the follicles is identical with the ovarian epithelium, he has seen no proliferation in the former, and therefore he seeks, by careful study of serial sections, to find the proliferation in the follicle, and to demonstrate the identity of the minute proliferating cyst with the follicle by demonstration of the ovum. In the simple cystic ovarian tumors Steffek found little cysts of irregular shape; in some of them there were abundant glandular pockets and in one of these cysts was the ovum; in the neighborhood of the cysts there were numerous epithelial tubes with cylindrical epithelia, which had become closed off from each other, and are to be regarded as sprouts from the little cysts. Connections of the small cysts with the ovarian epithelium were nowhere demonstra-

ble, not even in those which lay close under the surface. In one case he found ova of abnormal appearance in five little cysts, from which there were manifest sprouts of epithelium into the neighboring tissue. In regard to larger cystomata also, he denies the origin from depressions in the epithelium, since even in sections of the whole ovary the tubes are hardly ever found close under the surface. Even in one case where there were numerous depressions of epithelia, cystic dilatation of the latter could not be shown; but the cysts which were here found were precisely those which originated in follicles, as was proved by the ovum found therein. Steffek always found the epithelial tubes connected with neighboring cysts, and saw their derivation from the epithelium of the latter by being gradually shut off, whereupon they are changed into new cysts. The formation of most cysts, however, occurs by active participation of the connective tissue stroma, which presses its way into the cysts and divides them into two halves, which then become independent. A condition of irritation of the connective tissue is essential to the growth of ovarian tumors; without this the cysts may become larger, to be sure, but they do not subdivide; to a cystoma, therefore, there is essential an oöphoritis parenchymatosa interstitialis, while for an unilocular cyst there need only be an oöphoritis parenchymatosa. Steffek is disposed to totally deny the occurrence of the depressions of the epithelium in adult life, but considers such places to be mere contractions, which arise passively owing to shrinking of the ovarian stroma (this view has been refuted by the above-mentioned work

of Frommel). Also in carcinoma of the ovary Steffeck was able to demonstrate numerous sprouts of epithelium from small cysts, which he recognized as follicles by the presence of several layers of cells of the granulosa. Steffeck also demonstrated processes of proliferation in the primary follicles, and very frequently found numerous branching growths of epithelium pushing their way into the neighboring stroma, and starting from minute follicles with a clearly demonstrable ovum.

According to Steffeck, the primary follicles play the principal part in proliferations; mature follicles are less disposed to send out epithelial shoots, and no proliferations could be discovered in hydropic follicles; the latter might, to be sure, develop into unilocular cysts, but not into cystomata.

In the only kind of tumor of the ovary which was not examined by Steffeck, the papillary cystoma, v. Velitz could likewise demonstrate the origin from follicles. Olshausen sought for their point of origin in the tubes of the parovarium, which, according to Waldeyer, are said to extend from the hilus deep into the ovarian tissue; since the appearance of the works of Sinéty, Mallassez and Flaischlen, Olshausen has taken their view of the origin of cysts from the superficial epithelium. In opposition to this, however, v. Velitz was not able to show any connection with the ovarian epithelium in cases of ciliated epithelial cystoma, but instead of this he found ciliated epithelium in very minute proliferating little cysts of the size of a mature follicle. Moreover, he strongly emphasizes the distinction between the so-called ciliated-epithelial cystomata and the glandular cystomata, in

which papillomata may occasionally be developed. With the first name he characterizes the tumors which are developed in the broad ligament, usually bilaterally, and which always consist of a single cyst only, the epithelia of which, in consequence of an abundance of fat, are of various shapes, not sharply outlined, and carry cilia, and in the tissue of which granules of psammoma are usually found. In cases of so-called papillary cystoma, however, which he classifies together with glandular cystoma as colloid cystoma, he found cylinder cells lying in regular order with the nucleus at the basis, without cilia, and in the tissues there were no psammomatous granules. The pure ciliated papillary cystomata show no mixed varieties, or at most only complications with dermoids. The author regards the vascular buds, which sprout under the surface from the close network of blood and lymph-vessels, as being the points of origin of the papillary formation in ciliated papillary cystoma. These press between the epithelial cells and excite them to active proliferation.

Ventro-fixation.—Of all the operations which have been proposed for the cure of retroflexion of the uterus, ventro-fixation has obtained the strongest foothold in Germany, while shortening the round ligaments, either extra- or intraperitoneally, which has been adopted by so many operators in America, is performed very seldom in Germany. The indication for ventro-fixation depends upon whether the retroflexed uterus is fixed or movable. Klotz, who has performed ventro-fixation most frequently of any one in Germany, does this operation only when the retroflexion is fixed, and he has, in fact,

done this with ten per cent. of those patients who had retroflexion, or in all sixty-two times without a death. When the uterus is movable he does not consider that laparotomy is warranted, but he operates with Schuecking's vaginal ligature, which will be described hereafter. Leopold chooses his cases very carefully, and in determining the method of operation he takes into consideration not only the degree and the obstinacy of the suffering, but especially also the circumstances under which the woman lives; in women of the working classes he is more ready to do the operation. In uncomplicated cases of retroflexion he only operates when treatment by pessaries is absolutely unsuccessful. He is more ready to operate if the appendages are diseased, when he removes these and also fixes the uterus. Kuestner performs laparotomy for this purpose only when the uterus is fixed, and then only in fact when he has not been able to free it by Schultze's method. Saenger and Veit regard laparotomy as warranted only in cases of adherent retroflexion, and then prefer it to the forcible attempts at separation as used by Schultze. Most of the German gynæcologists only perform ventro-fixation for uncomplicated, movable retroflexion in case the latter renders the patient unfit for work, or for enjoying life, and when treatment with pessaries has proved unsuccessful. When the retroflexion is fixed, opinions are still divided as to what should be done; most operators first attempt cautious separation of the adhesions, or use massage.

Of the methods which have been proposed, that of Olshausen is per-

formed as follows: he sews to the abdominal wall the broad ligament on each side, or where the appendages have been extirpated; he thus secures the stumps; he uses silkworm gut, and puts one to two stitches on each side through the broad ligament without including the tubes, and he carries these sutures through the abdominal walls as far as the under surface of the skin; since silkworm gut is not absorbed it fixes the uterus most permanently and securely. The stiff ends become encapsulated and do not irritate the peritonæum. All the uteri on which Olshausen performed ventro-fixation remained adherent in apposition to the anterior abdominal wall; to be sure, in some cases the corpus became somewhat retroflected, but by means of the attached broad ligaments the uterus is permanently held up and in front. Saenger proceeds in the same way when he performs ventro-fixation after castration, while in simple ventro-fixation of a movable retroflected uterus he sews the uterine ends of the round ligaments to the internal inguinal rings and so shortens them to nothing. Most German operators fix the uterus after Olshausen's method, while Leopold and Czerny recommend a direct union of the fundus uteri with the lower part of the abdominal walls by means of three deep stitches of silk. Out of the nineteen cases which Leopold operated in this way, one became loose spontaneously in three weeks.

For separating adhesions, Kuestner does not use knife or scissors, but the Pacquelin cautery, because when this is used no blood escapes into the space of Douglas, from which blood adhesions might again be organized, which would again later contract.

He found that the light emitted by the glowing Pacquelin cautery was of advantage in the dark pelvic cavity. In regard to the results of ventro-fixation, Leopold states that all those complaints which relate to the retroflexion itself always cease, but that on the other hand the nervous hysterical complications do not disappear. In Olshausen's cases these, nevertheless, disappeared gradually, although after a very long time. The question whether pregnancy can occur after ventro-fixation, and what its course is, has been discussed by many authors. Kuestner avoids ventro-fixation in women of child-bearing age, since after he had thus fixed a uterus, from the fundus of which he had enucleated a myoma, he observed that abortions occurred. Gottschalk saw an abortion result in three months after ventro-fixation, and in removing the ovum he found the posterior wall of the uterus much thinned and the anterior much thickened. He regards the impediment to the extension to the anterior wall as the cause of this excessive thinning, and fears that on this account rupture of the uterus might occur. For this reason he also limits the performance of ventro-fixation. In opposition to these pessimistic views Saenger has collected from German literature a series of pregnancies occurring after ventro-fixation and ending in normal labors. In all there were eight natural births at the end of pregnancy observed, and besides the two above-mentioned abortions there was one other from among Saenger's cases, which took place in six months, and where the fœtus was macerated. In all the cases the uterus was in normal position after the puerperal period. Ols-

hausen believes that in Kaltenbach's case the fixation to the anterior walls had become separated during pregnancy.

Retroflexion of the uterus has been treated by many surgeons by means of operations through the vagina. Frommel opened the space of Douglas and sewed the sacro-uterine ligament on each side with one ligature to the lateral pelvic wall. Although one ligament gave way in consequence of too rapid absorption of the catgut, the uterus, nevertheless, remained in the normal position. In accordance with the views of Schultze, who regards laxity of the sacro-uterine ligaments as the cause of retroflexion, he considers this operation as the most rational.

Schuecking has proposed to fasten the uterus forward by means of a silk ligature, which he carries through the anterior fornix of the vagina, from the uterine cavity, by means of a curved sharp needle, and he then ties the ligature tightly. He has operated on over 200 cases in this manner, with good results. In nine cases conception occurred, and the course of labor was easy. Klotz is one of the few German operators who has employed this method; he operated forty-six times and had bad results eleven times. In seventy per cent. of the cases he injured the bladder. Therefore he, as well as Zweifel, now pushes the bladder back after making a circular incision in the anterior vaginal cornix, and then ligates a virginal uterus in the median line, fastening larger wombs doubly with two threads. In this manner Klotz has now operated thirty-five times (having no deaths), and in all the thirty-five cases he had complete success, for the uterus lies

anteverted. Three times he observed normal labors occur after vaginal ligation by Schuecking's method. Very lately Stratz, of Batavia, whose work can properly be reckoned as belonging to German literature since it sprang from Schroeder's school, devised another method of operating on retroflexion through the vagina, and he has tried it in fifteen cases. He makes an incision around the posterior commissure of the vulva and separates the recto-vaginal septum with blunt instruments up to the space of Douglas, after splitting the posterior vaginal wall and rolling it asunder to each side. The pouch of Douglas, which then lies free in the wound above, is opened, and as much as possible of it is resected, or dissected out with dull instruments, when a catgut ligature is tied around it as high as possible, and the part which is thus tied off is removed. Then the posterior vaginal wall is united again with a running catgut stitch. The operation is easy to perform, and all the cases turned out favorably. Fourteen women were permanently relieved of their retroflexions, having been under observation one year. Only in one case did the trouble recur, and at the laparotomy, which Stratz had to perform later on account of diseased tubes, he could satisfy himself that the space of Douglas was completely obliterated after the previous resection. Instead of the deep pouch he found only a shallow saucer-shaped depression lined with smooth peritonæum, and under it he felt a hard septum five to six centimetres high, which could be moved about together with the rectum and vagina. The want of success in this case is due, as Stratz thinks, to the

fact that he did not resect the pouch of Douglas high enough. In one case the patient became pregnant and had an easy labor.

The theory of Hoffmeier and Kaltenbach concerning the origin of placenta prævia, which we communicated to the readers of the *ANNALS* in our last report, is that placenta prævia is nothing but a part of the ordinary placenta, which is developed on the border of the reflexa, and which occupies a position over the internal os uteri. This opinion has found a weighty opponent in Ahlfeld, who seeks to uphold again the old theory that the impregnated ovum becomes attached in the neighborhood of the internal os, and that chorionic villi grow over the latter. According to Ahlfeld, the ovum which arrives in the uterus after impregnation is about one millimetre in diameter, and does not lie in a fold of the mucous membrane, but free on the surface, and the first attachment is due to a mutual vital action of the decidua and of the ectoderm which already has villi. It is only after this primary union has occurred that the reflexa begins to grow over it, and thereby fixes it definitely. The ovum may reach the os internum before it becomes attached, in case certain alterations of the mucous membrane are present, which we do not as yet understand accurately, but which are found in cases of endometritis. The impregnated ovum cannot fall out of the os internum, as was formerly believed, because the cervix during pregnancy is occluded by mucus, and because the rapidly growing decidua shuts the os internum. The uterus, also, cannot expel it, since it is enlarged concentrically;

it, therefore, has no expulsive force on the little ovum. It must remain lying in its place. The ovum can become attached by its villi to the decidua serotina in the immediate vicinity of the internal os, and can grow over the latter, since the greatly thickened membrane is here, as it were, continuous. If the villi only grow *up to* the os internum, the result is a lateral placenta prævia, but if they grow over it it gives rise to a central placenta prævia. For a further proof of his opinion, Ahlfeld, by palpation of the lower uterine segment on the twelfth to the fifteenth day of the puerperium, was able to demonstrate the thrombotic site of the placenta in the immediate neighborhood of the internal os uteri. The theory of Hofmeier and Kaltenbach, that the placenta prævia is only a placenta reflexa, which has become adherent to the vera of the lower uterine segment, is not tenable since it does not explain hæmorrhage during pregnancy. If it were merely a separation of the reflexa from the vera during pregnancy, only quite insignificant hæmorrhages would occur, and not copious floodings, which indicate separation of the placenta from the serotina. Only the insertion of the placenta at the os internum, and not the bridging of the latter with reflexa-placenta, can explain the softness of the lower uterine segment, the formation of thrombi at the internal os, which is proved to occur in childbed, the succulency of the cervix and of the lower uterine segment, the absence of labor-pains, and the slowness of uterine contraction. Ahlfeld does not acknowledge the chief points of the theory of Kaltenbach and Hofmeier, which are based on their anatomical specimens, for he

claims that one is so injured by contusion, and by the escape of the amniotic fluid, that its appearance is entirely changed. Both of the uteri, which were obtained by total extirpation, showed for him no placenta prævia at all, but only a chorion frondosum not yet entirely atrophied, some villi of which were still present and partly on the reflexa. The time required by the ovum for growing over the internal os uteri would be given by the fact that the diseased decidua (endometritis) is slower in forming the reflexa over the ovum. As soon as this is accomplished a further extension of the villi on the surface of the decidua serotina would no longer be possible.

At the congress of gynæcologists in Berne, Kaltenbach delivered a discourse on the significance of the foetal spinal column in regard to the mechanism of delivery. This address has very decidedly modified our views as to the origin of the hindrances to the third rotation in pathological presentations. While up to the present time the hindrance to the delivery of the head in forehead, brow and face presentations was always attributed to the size of the respective diameters of the head in relation to those of the pelvis, Kaltenbach considers the difficulty to be due to the mobility and flexibility of the foetal spinal column. The latter is much flatter than that of adults, and its movability is much greater in all directions, since the intervertebral cartilages are relatively much thicker and the whole system of ligaments can be easily stretched. The smaller the foetus the more flexible is its spinal column, and the larger it is the heavier it becomes. The cervical and lumbar vertebræ are the most mov-

able, while the thoracic vertebræ are much less movable, although their flexibility is of less importance in regard to delivery. The rotations of the head are around a transverse axis passing not through the latter, but through the spinal column. In occipital presentations, the spine is strongly bent and shows a convex dorsal curvature; as soon as the head in this position has arrived at the floor of the pelvis, a slight counter-pressure is sufficient to extend the head and cause it to emerge in the direction of its freest movability forward and upward through the vulva. All the ligaments of the posterior surface which have been overstretched are relaxed, and the vertebral column returns from its excessive curvature to its normal anterior convexity. In forehead presentations the great fontanelle is anterior, and the head is somewhat flexed on the spinal column; it can only pass out of the pelvis by being yet more strongly flexed. This is often possible only to a slight extent, and the head, therefore, rotates upward with difficulty. Delivery may take place, however, owing to the fact that in small children the thoracic vertebræ

take part in the increased flexion; in larger children labor is arrested. In face presentations the head is in extreme extension, and in order to be born it must pass to the most complete flexion. When the face rests on the floor of the pelvis the extension of the vertebral column is extreme, and in order to pass into flexion the spine for a moment must be perfectly straight. For this to happen a very considerable opposition must be overcome; this can only be accomplished by the pelvic floor, but the latter often fulfils this function with difficulty, or tears. In brow presentations the motion of the head from extension to flexion must occur as in face presentation, although there is not so much difficulty as in the latter case. In breech presentations the difficulty in delivery of the breech is owing to the slight lateral mobility of the lumbar vertebræ, which is less by so much as the child is larger. Kaltenbach regards the hindrance to labor in case of anencephalus as due to the stunted cervical thoracic vertebræ, which do not permit of such flexion or extension as is necessary for delivery.

EDITORIAL.

WE take great pleasure in copying the following editorial from the *Medical Mirror* where it appears as an editorial over the signature of "R." Even if the name of Dr. Reed, of Cincinnati, did not appear in the list of associate editors of our esteemed contemporary, there would be a little difficulty in recognizing the personality of "R" by the sound surgical

teaching, vigorous expression of opinion and conscientious sense of responsibility which appear in the article. We congratulate the *Medical Mirror* on the position which it has assumed in regard to this question, which, by the way, differs greatly from that indicated by some previous expressions of editorial opinion in that journal.

The Role of the General Practitioner in Operative Gynæcology and Abdominal Surgery.

"THE specialist lives by grace of the general practitioner. He fattens, if he fattens at all, upon the crumbs that fall from the ample table of the all-round doctor. And yet while this is true the element of reciprocity is not wanting. The distinguished Mr. Greig Smith once said to the writer that his work was exclusively with the *rejectamentum chirurgicum* of his neighbors; and what is true in this regard in Bristol is true in any city in America. The operating surgeon everywhere steps in to relieve the medical attendant of responsibilities which the latter, for reasons sufficient to himself, does not care to assume. These reasons are forcible and reflect honor upon the man who is actuated by them. It is no proclamation of lack of skill on the part of a general practitioner when he declines to do certain operations of election; on the contrary, it bespeaks an intelligent appreciation on his part of the conditions essential to the highest success

in modern surgery. These conditions, he knows, embrace isolation of the patient, attention by skilled nurses, frequent observation by the surgeon, asepsis; in short, conditions which can be commanded only in a well-equipped and well-disciplined hospital. He realizes that recovery may be seriously jeopardized by subjecting one of these cases to infectious influences of which he may be made the innocent carrier. He realizes, as no ermined occupant of a throne can realize, what it is to have a fierce light beat upon his head and his work; and realizing this he must needs feel that he is incurring a responsibility unjust to himself when, even under almost resistless pleadings of his justly confiding patients, he essays operations under unfavorable conditions. Under these circumstances he calls in his friend, the specialist.

"There is, however, another side to this question. If the surgeon is to be

called in to take responsibilities, it is but a matter of common fairness that he be given the cases in as fair a condition as possible. It is now almost an anomaly to meet a case of delayed ovariectomy, unless the responsibility for such delay be found with the patient or her friends. The result is that the mortality from ovariectomy has become almost *nil*. The same excellent results will be realized in other departments of work when the same co-operation on the part of the general practitioner will be accorded to the surgeons. The credit for improved results in ovariectomy must be given entirely to general practitioners who have diagnosed these cases early and advised prompt operation.

"But just what role shall the general practitioner play in operative gynæcology? Shall he be just a sort of distributing agent, a non-commissioned canvasser of cases for the metropolitan operators? Or shall he operate upon his own cases? The first and, indeed, all-sufficient answer is that he will do just as he pleases. He has the ability to do these operations—operative gynæcology has come to mean operations below the pelvic diaphragm in women—and he can generally command the conditions essential for their success. Then why should he not do them if he so pleases?

"But what of abdominal surgery? That depends entirely upon what the individual practitioner in question purposes for himself. If it is his intention to follow the career of an abdominal surgeon, the sooner he operates upon his first case, after due apprenticeship, the sooner he will get

about his life's work. He ought, however, to make adequate preparations. To meet the demands of modern surgery, he ought to proceed about as follows: He ought to stand at the elbow of an abdominal surgeon for several months; he ought then to prepare a room in his own house, to meet all the canons of refined asepsis; he ought to secure the services of a nurse who can manage a drainage tube, use the catheter, give enemata, and whose cool-headedness can be relied upon; he and his assistants ought, at least for the time being, to go entirely out of general practice; he ought, before making a cut, be equipped to do any one of a dozen operations; and then, after operating, he needs to stay by his case almost constantly, until convalescence is assured.

"If, however, it be not his purpose to enter upon such a career, it would be folly for him to comply with these 'minimum requirements.' A distinguished and successful operator has said that no fee can compensate for the soul-racking anxiety felt over early cases. The applause of a single achievement in abdominal surgery can be no inducement to the level-headed practitioner. He understands the necessities of these cases, and he declines to be duped by the slipshod operator who runs out from the city, does the operation, disappears by the next train, and leaves the local attendant to battle with unfavorable conditions in a herculean effort to save his patient—and, in the event of a fatal issue, to receive the maledictions of friends and the censure of the community.—R."

SOCIETY PROCEEDINGS.

American Association of Obstetricians and Gynæcologists.

[Continued from page 46.]

Dr. M. C. O'BRIEN, New York : Mr. President, I wish to call to your mind a case that has given me a great deal of trouble, and which I attended five years ago. That night I was called to a woman in labor, not knowing anything about her previously. I very shortly diagnosed a breech presentation. Labor lasted from 8 in the evening until 6 the following morning. A female child was born, a very puny, delicate child of five and a half pounds. During the manipulations of the evening I discovered an enlargement at the right cornu of the uterus, and not knowing very much about those things in those days, I let the matter pass until the labor was completed. I made a thorough examination at that time, and I found a hard, what I considered fibroid, tumor. I saw the patient for two days subsequently. The patient made a very excellent recovery. The third day I informed the husband of my discovery. He, being a very ignorant man, and of a very ignorant family altogether, told his sister-in-law of my discovery, and the sister-in-law said her other sister had been delivered, two weeks before, of twins, and there were no tumors in the family, and I was summarily dismissed. Five years ago this happened. Four months ago, during my calls at the Harlem Hospital, in the northeastern part of this city, I saw a patient in our rounds with the surgeon, Dr. Thomas H. Manley, and an impres-

sion came to me that I had seen her before. She had a slight ptosis of one eye, which gave her a peculiar expression. I saw that she was there for cancer of the right breast, with immense enlargement of the axillary glands of the right arm. Dr. Manley proposed to amputate the breast, and also clear out all these enlargements in the axilla. I asked the patient's name and found that she had assumed a new one. I looked up the physician who sent her to the hospital, and I found that he had delivered her twice during the previous four years of dead children, one in the seventh month and one in the eighth month of pregnancy, and that he had never known anything of any tumors being about there. So the patient was operated on in the course of a few days, the breast amputated and the axilla cleared out, and for five weeks she made a very rapid recovery, and was able to walk around in five weeks. She was considerably emaciated, but being over 40 years of age, with a somewhat pendulous abdomen, no particular attention was given to it. I called Dr. Manley's attention to the fact that I had known that patient before. I wanted to make my grounds pretty firm to him, at least, and the abdomen was examined, and to the consternation of every one present we found that abdomen completely filled with hard, nodular masses, from the size of a chestnut to that of an orange. In every direction we found that the

glands throughout the body were all hard and nodular. There was no syphilitic history in the case whatever. The patient, after improving somewhat, eventually died of diarrhœa, in the course of two months following. A post-mortem revealed this tumor to be a cancer, and the person was actually loaded with cancer. When we find a hard fibroid tumor, the sooner we get it out of the abdominal cavity the better.

Dr. I. H. CAMERON, Toronto: I did not arrive sufficiently early to hear the paper. I am strongly in accord with the opinions expressed, that no general rule can be laid down for our guidance in any case. The position of the fibroid tumor makes all the difference in the world. If it be clear that the position of the tumor does not interfere with delivery, interference ought not to be had before gestation is complete. Some of the cases Dr. Ross speaks of had come under my own observation, and one I had the good fortune to escape operating upon. I understand that was an ovarian tumor. I have operated on two occasions in the puerperal state for ovarian tumor with very satisfactory results. In other cases the tumor was diagnosed before the gestation was complete. I had such a case last week which caused me a great deal of anxiety. It was a case of gestation, primipara, 35 years old, seven months advanced in pregnancy. In the night she took pain; I was telephoned to between 12 and 1 in the morning. I was not disposed to go to the patient unless necessary, because she had been having intermittent pains before. Morphia was administered. The next day the temperature went up, and I found that

peritonitis had set in. It was decided that the chance of succeeding in an operation was very slight. For some days there had been no movement of the child, and it was presumed the child was dead. I reluctantly consented to forego any operative interference. The patient died the next day, undelivered, of course. That was a case that caused me a great deal of anxiety. If any line of action could be laid down as being uniform in such cases, it would have been a relief. On two or three occasions, I think, patients have come to me with fibroid tumors presenting down in the pelvis, with their physicians stating that within the previous month delivery had been effected. I supposed from my examination at the time that a delivery under the circumstances would be impossible. Those cases I operated upon by removal of the uterus and tubes, and they have done uniformly well.

Dr. E. W. CUSHING, Boston: Mr. President, the reader of the paper asked for experience on the subject. A woman who had been married for fourteen years, had never had a child, and was not expecting one, had a large, rapidly-increasing ovarian tumor. I operated on it and lifted out the tumor, and found a sac lying over a uterus pregnant at the fourth month. She recovered without any bad symptoms and was delivered at term. Around that uterus and the lower part of the tumor there were immense veins—a whole nest of them. It would have been an excellent chance for the woman to bleed to death if she had been tapped. It was a unilocular cyst, such as the last speaker mentions that there would be danger in tapping. From my own experience

with that one case, and my general experience, if I had to open the abdomen of a pregnant woman I should not tap it. In regard to myomatous tumors complicating pregnancy, I have not operated on any, but I have attended an operation. As Dr. Price is not here, I will refer to it—a woman with a large fibroid tumor, a part of it so situated as to obstruct the pelvis. He waited until the time of delivery. The tumor was removed by abdominal hysterectomy. It was a beautiful operation, with no difficulty whatever. A large incision; sponges packed around; removing the child; constricting the neck of the tumor; removing it from the abdomen. The woman was nursing the child on the third day. Never had any subsequent trouble. I know he has had others like it since. So that it seems to me that such an operation is safer and more in accordance with modern surgery than attempting to enucleate from below a fibroid tumor that is obstructing the pelvis. It is better to let the woman wait until the time of delivery, and then operate from above, if necessary. This shelling out the tumor from below, in any woman, seems to me to be a very dubious sort of surgery.

Dr. H. O. MARCY, Boston: I did not intend to say anything on this subject, Mr. President. There are only one or two of the points I will call attention to. I quite agree with my friend, Dr. Cameron. I had supposed tapping under these conditions was out of the question. In illustration of it, some time ago I assisted my friend, Dr. Fox, in removing a simple monocyst of the ovary where a woman was perhaps five months pregnant, and the remarkable thing was the interlacing of the veins. They were

largest where you would have been likely to injure one in tapping. We thought of it at the time, and called attention to the danger that might occur from the injury of such veins. In illustration of the danger of tapping, I have had a remarkable experience in my own practice. A woman, sent to me for diagnosis, had a small cyst lying to the right, probably a monocyst. On the strength of that the physician tapped. I did not hear anything from the case until I was asked to go ten miles out of town to assist in the operation. When I saw the patient she was already etherized, on the table ready for operation. The conditions were these: There was a flat, irregular cyst of the abdomen. Then I asked about the temperature. She had been having a run of high temperature for a week or ten days. In operating we found the cyst was adherent, and found the uterus was enlarged. At the back of it lay a large, abscess, fist-sized or more, and so changed in its conditions, so adherent, we finally found it was a safer thing to remove everything, which meant hysterectomy, cutting away the ovaries and tubes, and making clean work of it. She finally made a good recovery. But it showed how seriously the life of the patient was endangered, how dangerous an operation was necessary as the result of what the physician said was simply tapping in the hope to cure. I think we ought to enter our protest as strongly as we can against this at least common practice of the early days, of tapping, apparently to carry infection into the patient's abdomen, resulting in what, in the early days, we saw so much of, the dangerous and serious subsequent complications that often cost a life.

Dr. W. W. POTTER, Buffalo: Mr.

President, as contributing to the consecutive grouping of cases of operating for abdominal tumors in pregnancy, I would like to call your attention to a case reported in the first volume of the Transactions of this Association, in which the tumor had existed on one side for two or three years, had been tapped several times, and the woman's statement was that on one or two occasions a painful of water was taken. Finally she became pregnant. Her last menstruation was on the 17th of November, and I operated upon her on the 30th of March, removing a large tumor on one side and a small one on the other. The interesting feature of this is that the large tumor had existed for some years. Now a pregnancy; the presumption is the small tumor grew after pregnancy. That was a single cyst containing about twenty ounces. I cut and tied and dropped both pedicles, and she was well in a short time, and carried her child to term and nursed him. It is interesting to show the growth of the second cyst. First, an old cyst, then pregnancy, and finally the growth of the second cyst. The old cyst was solid, and I had to enlarge the opening to deliver it, and the shock of that sort of work was not sufficient to provoke miscarriage. She went to term, and everything was smooth and comfortable about the case. Now, for the purpose also of reminding the fellows further of the history of these cases, the case Dr. Cushing refers to as operated on by Dr. Price will be found illustrated in the third volume of the Transactions of this Association. It was a case where tapping would have been bad practice on account of the highly vascular state.

Dr. J. H. CARSTENS, Detroit: I wish emphatically to protest against the tapping of tumors during pregnancy. In case of fibroid you have to judge each individual case by itself. Ovarian tumors ought to be removed, pregnancy or no pregnancy. I claim, for one, that it is not a very difficult case to make a diagnosis. I think by working carefully we can always make a diagnosis of pregnancy.

Dr. A. VANDER VEER, Albany: I do not suppose there is any man in the State of New York who has emphasized more in his teachings this point in reference to tapping in the case of an ovarian tumor than I. I agree with the remarks made in reference to the evil results of it. I say never tap, not even with the needle of the aspirator or the hypodermic syringe. It is astonishing how the abdominal cavity will accommodate itself to an ovarian tumor.

Dr. Ross (closing): The reason I did not mention the subject of tumors taking on a malignant condition in this connection was that I thought the lines laid down were pretty clear in that direction. The lines laid down with regard to the treatment of the two other conditions are not clear, and I think this discussion has helped to clear them up. In taking these individual cases by themselves we want to have some points to guide us. Sir Spencer Wells, who had a large experience, tapped five cases. They all went on to full time. A few of us may occasionally be inclined (to appease the feelings of people who are anxious to have a child) to tap. But if any bad symptoms arise subsequent to the tapping, the abdomen should be immediately opened.

I would, therefore, in such cases

occasionally be inclined to accede to the wishes of the people and to tap in this way.

There is one point I would like to mention here. That is this: this summer I explored the abdomen of a woman without any anæsthetic. I felt her liver, her kidneys, her uterus, her tubes and ovaries, and she said it did not hurt her any more than if she had the toothache.

There is one point that was not brought out that I would have liked to have brought out. When the case goes on to a certain time, when one

is unable to get at it before labor commences, you are called for suddenly to see a case in consultation, to deliver a woman that cannot accomplish the delivery, and the doctor in attendance has waited for some time; the head will not come down; then he wants some advice as to the best thing to do. From the records I have produced here, there is not the slightest doubt in the world but that better results will be obtained by abdominal operation than by version or craniotomy.

(TO BE CONTINUED.)

TRANSLATIONS.

Sulfonal Poisoning.

Dr. Ernst Neisser—Med. Woch., May 21, 1891.

POISONING by large doses of sulfonal has been very rarely noticed. A laborer in Riedel's manufactory, wishing to get a satisfactory sleep, took about three tablespoonfuls of sulfonal. When he had slept four days and nights, he awoke. He slept one and a half days longer, and afterward was somewhat dizzy, without experiencing further disagreeable consequences.

The present case is that of a 15-year-old healthy apprentice in a drug house, who was transferred from the surgical to the medical clinic, with the statement that he had poisoned himself with some unknown substance. He had a temperature of 96° and was profoundly unconscious; respiration easy and quiet; pulse 100, rather small, but regular. The pa-

tient's condition was not alarming, and he was treated during the night with warmth and excitants.

On the following morning the patient was quietly sleeping; the countenance slightly reddened; the mouth closed; the respiration quiet (18) and deep; pulse 96 and extremely variable; reflexes uncertain, except that the corneal reflex was always distinct. The pupils, of medium dilatation, reacted variably to light, returning immediately to their former size.

The patient did not react to cries and shaking. Pricking of the face, hands and feet produced no effect, except a distinct widening of the pupil. Now and then languid jactitation occurred.

Salicylic acid and phenacetine were mentioned as possible causes of the

condition, but the chloride of iron did not react upon the urine. Finally, we learned that two boxes, of fifty grammes each, of sulfonal (over three ounces) were missing.

The patient now received (besides excitants and cold douches every two or three hours) rectal injections of 200 to 400 centimetres of lukewarm water (later milk and wine also), in order to hasten the excretion of the substance by increasing diuresis. We were successful in keeping up a daily passage of about 1,000 centimetres of urine by the patient, who always retained the repeated injections of small amounts of water, although he received nothing by the mouth. There was neither albumen nor sugar in the urine. Prof. Jaffe was able to detect sulfonal in it, excreted unchanged.

On the third and fourth days the patient slept soundly. He reacted better to irritants, but without awaking.

The temperature, which at his admission was 96° , rose to 101.3° on the fourth day; fell to normal on the second day; rose to 100.8° two days later, and then fell to normal, where it remained. On the part of the lungs there was nothing pathological. The pulse had now become normal and the respiration peaceful. No defecation.

On the fifth day the patient opened his eyes repeatedly, but was completely unconscious. The pupils were wide and reacted sluggishly. After a time languid answers came in response to energetic questioning: "What have you taken?" "Sulfonal." "How much?" "A hundred grammes." His speech was slow and labored. He immediately fell asleep again.

On the sixth day he answered questions slowly but rationally and took nourishment by the mouth. He im-

agined he was on a ship (dizziness). In the course of the day he could see everything. Ocular field normal. He could not stand or walk without assistance.

On the seventh day the patient was in full possession of consciousness, yet felt dull and dizzy and remained in bed.

It was substantiated that the patient had taken the whole contents of two boxes of finely powdered sulfonal, of fifty grammes each, and that he had washed down the largest part with considerable amounts of water. Thereupon he went into the open air and walked about three-quarters of an hour. He could give no account of himself after this time. After six hours he was found unconscious, was made to vomit, and was then brought into the clinic.

An extraordinarily large amount of sulfonal was absorbed, for the patient did not vomit until six hours after its ingestion, and after an unconsciousness of five hours. A part had, without doubt, already passed into the intestine. Furthermore, the patient had no movement of the bowels until the fifth day, and unchanged sulfonal was excreted in the urine.

The favorable outcome is to be explained by the slowness of the process of absorption in the alimentary canal, caused by the difficult solubility of the sulfonal (according to Kast 1-200 in the gastric juice at the body temperature) and its excretion by the urine. Hence the importance of free diuresis in such cases.

Finally, our case shows that sulfonal does not possess a cumulative action, provided that the secretion of urine continues to be sufficient.

PHILADELPHIA OBSTETRICAL SOCIETY,

October 15, 1891.

PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

DR. B. F. BAER reported

A CASE OF DERMOID OVARIAN TUMOR CONTAINING A ROW OF TEETH, THE UPPER PORTION OF WHAT APPEARS TO BE A RUDIMENTARY MOUTH, AND HAIR AND BONES.

On September 2, 1891, I was requested by Dr. C. B. Hough, of Ambler, to see Mrs. X. Dr. Hough had made a diagnosis of ovarian tumor. The patient was 32 years of age, married, and had one child aged 5 years. Puberty had occurred at 14. The following interesting history was obtained: When she was between 10 and 11 years of age her health began to fail, and her mother then noticed for the first time that the child's abdomen was increasing in size. Soon after this the late Professor Joseph Pancoast was consulted, and made a diagnosis of abdominal tumor, but was uncertain as to its character. The patient continued under Dr. Pancoast's care during the next five years. He at several times suggested that an operation might be advisable, but did not urge it; and as the patient improved in health as puberty became established, the question of operation was dropped. As she grew to mature womanhood, the tumor seemed to decrease in size, or at least did not keep pace with the growth of the patient. At the age of 25 she was married, and two years afterward gave birth to a healthy child at the full term of pregnancy, after a normal labor. Except that her abdomen was quite large and irregular, there was nothing during the progress of the gestation to attract her attention. After the birth of the child the tumor was large enough to quite perceptibly distend the hypogastrium, and from that time it grew slowly until within the last year, when its growth was more rapid. During the twenty-one years in which she was known to have had this tumor she was not aware that it was at any time painful. Since the tumor took on more rapid growth, and

especially during the last six months, her health had failed rapidly, and she was now quite emaciated and anæmic.

Examination with the patient in the dorsal position showed the abdomen to be distended to the size of the full term of gestation, being rather even in contour and projecting. Palpation revealed a round, smooth mass, firm and hard in its lower portion, but fluctuating above. On each side of the tumor, in the iliac regions, a peculiar flattened, hard surface, apparently connected with the wall of the tumor, could be outlined. Percussion gave the usual signs characteristic of a circumscribed solid or fluid mass in the abdominal cavity. Per vaginam, the uterus was found to be normal in size, retroverted, and slightly mobile; to its left an irregular body, about the size of a duck's egg, was detected; this seemed to be independent of the large tumor, which was not easily touched from the vagina; and it was thought to be the left ovary, enlarged. I confirmed Dr. Hough's diagnosis, and expressed the belief that the tumor was dermoid, and that it would probably be found to contain teeth and bone, as well as the other products common to these tumors. The flattened surfaces felt in the iliac regions I believed were laminated bony structures in the wall of the tumor. The opinion that the tumor was dermoid was based on the fact that it had commenced to develop at such an early age, to its slow growth, and to the peculiar character of the lower portion of the growth described above.

I advised its removal, and the patient entered my private hospital, where the operation was performed on September 15. An incision of less than two inches permitted me to confirm the diagnosis and to empty the cyst of its contents, which proved to be the oily, sebaceous material common to these cysts. After evacuation of the fluid, the cyst-walls did not entirely collapse. This was

found to be due to the presence of bony substance in the cyst-wall. Further examination showed the tumor to be free from adhesions, and I therefore began its extraction by first collapsing the wall, crushing the bones as the tumor was squeezed through the incision, very much as the skull is crushed in craniotomy. I had considerable difficulty in getting the mass through the small opening, but finally succeeded. After ligating and dropping the pedicle, the left ovary, enlarged to the size of a duck's egg, was brought up and removed without rupture. The incision was then closed and the patient returned to bed, making a rapid recovery.

Examination of the specimen shows the bony plate to be related to the wall of the tumor much as the skull bones are related to the dura mater and scalp. Immediately within the cyst-wall on the under-surface of these bony plates, a substance somewhat resembling brain tissue was found. At that portion of the tumor nearest the pedicle, a cavity was opened, which proved to contain a mass of hair beautifully wound around a circular projection of organized tissue, which resembled the skin on its surface. This projecting membrane was attached to the cyst-wall at one extremity, and then, presenting a free surface for about an inch and a half in extent, from and around which free surface the hair is developed and coiled, it becomes spread out and merged into what appears to be an attempt at the formation of the upper lip, and from which hair has also grown. Just below this is seen projecting, as from beneath the lip, a row of three perfectly formed incisor teeth, which seem to be embedded in bone. On the under-side of the teeth, or rather inside of the mouth—for there really seems to have been an effort toward the development of a mouth—there is a serous-like membrane which very much resembles the roof of that organ.

The other smaller ovary was next examined. It had become solid from the cooling of its fatty contents. On section it was found to contain, in addition to the fatty substance, a mass of hair and a projecting nipple or finger-like organ somewhat resembling that in the larger specimen just described; but this was free at its extremity, and here was seen a peculiar development which at first suggested to Dr. Gibbon, who was examining the specimen with me, that it might be an embryonic eye. After the fat was dissolved by ether,

and the hair unrolled, it was found to be several feet in length, and to grow from the projecting organ already noted. This organ is studded over with papillæ resembling those of the tongue, but its surface looks to the unaided eye like that of the skin.

Dermoid ovarian tumor was at one time thought to be rare; but in recent years, since ovariectomy has come to be a recognized surgical procedure, dermoid cyst has been quite commonly met with; but tumors containing highly organized structures, such as teeth, or where there is an attempt toward the development of organs as shown in this specimen, in the evident attempt at the formation of a mouth, are always highly interesting. Almost nothing is really known concerning the true origin of these growths, the theories advanced in explanation being little more than interesting speculations, but it has long been certainly known that they develop independently of fecundation. The theory of Ritchie, expressed many years ago in the words, "Every dermoid cyst of the ovary is an ovum which has undergone a certain amount of development, and is a perverted attempt at parthenogenesis," is probably as near to the truth as any other, so far as their development in the ovary is concerned; but when we remember that dermoid tumors are found in other portions of the body, and in the male, Ritchie's idea, like the rest that have been advanced, is not sufficient to account for the origin of these very interesting phenomena.

There is one point in the practical treatment of the subject of dermoid ovarian cysts in which my experience does not accord with the observations of some others. It is said that these tumors are especially prone to inflammation and that their contents are very irritating to the peritonæum; indeed, the great pioneer in ovariectomy, Atlee, says, "They are rarely suitable for operation," presumably because of their inflammable nature. But Atlee's views were the result of the examination of old, neglected cases, or of cases which had been tapped, such as some of those reported by himself and others, in which adhesions had formed, and the tumors opened and discharged through the abdominal wall, bowel or bladder. The experience of more recent years, since ovariectomies are performed earlier, has proved that these tumors are not especially prone to inflammation when not tapped; certainly this has been my own ex-

perience. Of the dermoid tumors that I have removed, which had not been disturbed by tapping previous to the operation, adhesions were the exception rather than the rule; and the patients recovered as well as those whose tumors did not contain dermoid elements. I have on several occasions inadvertently ruptured the cyst-wall, so that the contents were emptied into the pelvic cavity, in one case in large quantity. There was not any evidence shown in the after-history to indicate that the fluid had irritated the peritonæum. Of course I was careful to remove all foreign material by irrigation, but a drainage tube was not used in any of the cases. They all recovered.

DISCUSSION.

DR. WILLIAM GOODELL:

These dermoid cysts are exceedingly curious phenomena. I do not think that any theory yet advanced fully accounts for their origin. The fact that they appear in males, in my opinion, negatives all those theories. They are usually single, and it has been claimed that they are always single. I have, however, removed double dermoid cysts, each one containing hair, teeth or bones. I have occasionally found them free from adhesions, but not when they are of any size. One of the worst cases of adherent cyst that I have had was a dermoid cyst the size of an adult's head. I have removed one very much larger than that, but they are rarely of any great size. The adhesions in the case I referred to were most formidable, and the vessels in the adhesions were as large as those we ordinarily find in the pedicle of ovarian cysts. I disagree in a measure with Dr. Baer's statement in regard to the lack of vulnerability of these tumors. In my experience they are extremely liable to inflammation, especially so if tapped. Years ago, I tapped two cysts per vaginam, and in both instances serious inflammation was set up, and abscess resulted, which fortunately ended in the disappearance of the cyst; but the women's lives were put in great jeopardy. The fact, also, that they are so commonly adherent, especially if of any size, would seem to show their liability to inflammation. In reference to the contents, I do not know how irritating they may be, but I do think that our fear of the irritating character of ordinary ovarian fluid is one of those old theories, handed down to us as heirlooms, which may need qualification.

Let me add, in regard to the color of the hair found in these dermoid cysts, that in every instance in my practice the hair has been of a tawny color.

DR. B. F. BAER:

Concerning the double character of these tumors, it was at one time thought they were usually single, but I do not think this is correct, for I have as often found them double as other forms of ovarian cysts. While the color of the hair is usually tawny it is not always so. I presented a specimen at the September meeting of the society, in which the hair was black.

Unless these tumors have been tapped I do not think their contents are irritating to the peritonæum, and I doubt, even if tapped, whether they are more irritating than other cysts. Inflammatory trouble and adhesions follow tapping, as a rule, in any form of ovarian cyst.

DR. B. F. BAER also reported

A CASE OF FIBRO-SARCOMA OF THE UTERUS, COMPLICATED WITH PREGNANCY, TREATED BY HYSTERECTOMY, WITH REMARKS ON THE MANAGEMENT OF THE PEDICLE.

The patient from whom this specimen was removed was sent to me by Dr. Frank L. Horning, of Camden. She is 37 years of age, and was married in February, 1891. Puberty occurred at sixteen, and menstruation had always been regular, but had become rather profuse during the last two or three years. She considered herself in good health until May of this year, at which time she became conscious of a full feeling in the pelvis, although she is certain there was not any enlargement of the abdomen at that time. Her catamenia were suppressed in June, and since that time she had not menstruated. This circumstance, together with mammary changes and nausea, convinced her that she was pregnant. In the latter part of July the abdomen was distended in the lower portion, and she was not entirely free from pain. There was not, however, enough inconvenience to attract her close attention until toward September 1, when she was rather suddenly attacked with a severe pain in the pelvis and sacral region, extending along the course of the sciatic nerves. There was also tenesmus of the rectum and bladder. She was kept under the influence of an opiate

during the next two weeks, which served simply to quiet her and delay investigation as to her true condition. Dr. Horning was now called, and an examination revealed to him a large, firm mass occupying the pelvis, probably displacing the pregnant uterus, for he was unable to find any portion of the latter organ, except the lower edge of the cervix, which was crowded behind the symphysis of the pubis. My brother, Dr. J. S. Baer, then saw the patient with Dr. Horning and corroborated the latter's suspicions of fibroid tumor complicating pregnancy. On September 28, through the kindness of these gentlemen, I first saw the patient. She presented an appearance of extreme anæmia, with a decided cachectic hue of the surface, and there was considerable emaciation. The patient assured me that the extreme pallor had come on recently, and that it had resulted from the severe pain which she had endured for a month previous. The pain was deeply seated in the pelvis and back, and tenesmus of the rectum and bladder was still severe. Her symptoms were very much like those of which women complain during the second stage of labor, with the occiput posterior, and the head on the floor of the pelvis.

Examination with the patient in the dorsal position showed the abdomen distended by an irregular mass which extended as high as the umbilicus, being larger on the right than on the left side. Palpation showed this mass to be divided into two main portions, which were separated by a dumbbell-like constriction. The mass on the right side was rather globular, and conveyed a boggy, fluctuating sensation, while that on the left was quite firm, at one point having a projection of almost bony hardness. Per vaginam inspection showed the peculiar discoloration of pregnancy, and touch revealed the pelvic tumor. The pelvis was filled by a firm, hard mass as large as a child's head. It was impacted and immovably fixed. The cervix uteri could not at first be found, but deep pressure finally located it high up above the transverse ramus of the pubic bone, and almost out of the reach of the finger, where it was flattened between the bone and the tumor. By the combined vagino-hypogastric palpation, the globular mass on the right side was found to be connected with the cervix, for movement of the former caused the latter also to move. The usual mammary changes

of pregnancy at three and a half or four months were present. The diagnosis of probable fibroid tumor complicating pregnancy at or near the fourth month was confirmed.

In view of the grave condition of the patient and the location and character of the tumor, it was imperative that an operation for her relief should at once be performed. The apparently rapid growth of the tumor and the cachectic appearance of the patient, which, according to her statement, had been of recent development, together with the peculiar location and relation of the tumor to the uterus, suggested the possibility that the fibroid, under the stimulus of gestation, might have become sarcomatous. There was also a slight hope that the tumor might prove to be an ovarian dermoid which had been stimulated to rapid growth from the same influence. The patient was advised to enter the Polyclinic Hospital, which she did on September 29, when she was at once prepared for laparotomy. A second examination, after the patient had entered the hospital, served only to confirm me in the belief that laparotomy was the proper course to pursue.

The operation was performed on October 2, and I was assisted by Drs. Dorland, Gibbon and Knipe. There were present as guests Drs. Horning and J. S. Baer, several members of the Faculty and the physicians in attendance as students of the Polyclinic. After the patient had been etherized, I made a final examination, per vaginam, with the slender hope that I might be able to elevate the tumor and thus permit the uterus to occupy its normal position in the pelvis, when a modified plan of treatment might have been adopted. The examination, however, confirmed my previous opinion. I therefore proceeded with the laparotomy, making an incision four inches in length, when the pregnant uterus was exposed to view. The organ was above and resting upon the right side of tumor, being connected with the latter by a pedicle about an inch in diameter, which was attached to the posterior surface of the uterus, near the right cornu. The left broad ligament and the tube and ovary were spread out and stretched over the tumor. Passing my hand beneath the uterus and over the tumor, I found the latter very firmly fixed in the pelvis, not, however, by inflammatory adhesions. I next increased the in-

cision to about six inches, when the uterus emerged from the abdomen. Now, covering the intestines with towels which had been wrung out of hot water, and protecting the uterus in the same way, I made an effort to dislodge the tumor, but failed. I omitted to mention that when the tumor was exposed to view it presented a jagged, whitened color, so that my previous fears of sarcoma were strengthened. I therefore did not wish to puncture the mass, fearing that, should it prove to have liquid contents, the latter might be discharged into the abdominal cavity. But I was compelled finally to make an opening, into which I hooked my fingers as a fulcrum, and then by great effort and rotatory motion I succeeded in dislodging the mass, when it slipped out of the abdominal cavity. The propriety of removing the tumor and returning the pregnant uterus to the abdominal cavity was now considered, and while doing this I proceeded to ligate the pedicle and separate the tumor. Further examination of the uterus after the pedicle was severed showed that it contained another tumor on the left side, embedded in the uterine wall; there were also several suspicious-looking, small, white protuberances on the surface. I therefore determined to remove the uterus. The cervix and broad ligaments were then surrounded by an elastic ligature, and after this was secured the organ was cut away. After trimming away as much of the cervix as I thought advisable, I next, following Schroeder's plan, stitched the peritoneal surfaces over the stump with Chinese silk ligature and ligated the bloodvessels. I then removed the elastic ligature, when blood began to spurt from the ovarian arteries. Clamp forceps were at once applied and the hæmorrhage controlled. I now transfixed the broad ligament with a single silk ligature and tied toward the outer surface of the ligament, including, of course, the ovarian vessels. This was repeated on the opposite side, when the forceps were removed and the bleeding found to be entirely controlled. The pedicle was then dropped, the peritoneal cavity freed from blood and clots, the abdominal sutures placed, and the wound closed without irrigation or drainage. Aristol was dusted over the line of the incision, a strip of gauze and a cotton pad laid over this, the whole being firmly strapped with adhesive plaster. The operation lasted more than an hour, and the

patient was quite exhausted at its completion. A stimulating enema was administered before she was removed from the table, and a hypodermic injection of morphia and atropia given soon afterward. The sutures were removed on the seventh day, when union was found to be complete. The pulse at no time reached 100, and the highest temperature registered was 99 $\frac{3}{4}$ °. There has not been the slightest evidence of trouble in the pedicle, and the patient is convalescent.

There are many points of interest in this case which might be dwelt upon with profit, but I will only detain you with a few remarks regarding the management of the pedicle in hysterectomy. I do not think, in view of the after-history and the present condition of the patient, that the propriety of dropping the pedicle in the case just narrated will be questioned, nor will it be denied that the patient is in far better condition than if the pedicle had been clamped outside of the abdomen.

It will not be controverted by the most enthusiastic advocates of the extraperitoneal management of the stump in hysterectomy that the ideal treatment of the pedicle is only attained when it is treated by the intraperitoneal method; and I believe that the abdominal surgeon will not rest satisfied until the technique of this operation shall have been so perfected that the ideal will have become the practical, so that the pedicle may be safely dropped, as it is in ovariectomy. The treatment of the pedicle in hysterectomy is now passing through the same stage of doubt and trial as was the case with the ovarian pedicle fifteen or twenty years ago; and I will venture the prediction that in the operation of the future the pedicle will be treated intraperitoneally almost as constantly as it is in ovariectomy at present. And why should it not be so treated? We have the same material with which to form a pedicle that we have in ovariectomy, with the addition, of course, of the cervical tissue. But if the latter is trimmed away until almost the entire cervix is removed, as can be done in almost every case, and the edges united somewhat according to Schroeder's plan, there should be very little danger from sloughing of the pedicle, the thing most dreaded in this operation. When it is remembered that immense stumps are sometimes left after ligation of a short, thick pedicle in ovariectomy, and that these are

dropped with impunity because sloughing never occurs, one cannot help feeling that the earnest advocacy of the extraperitoneal method for fear of a sloughing pedicle is founded upon an anticipated danger for which there are not sufficient grounds. Of course an invariable rule cannot be laid down for all cases; where the pedicle is very large, as in a case related by Keith, in which it was as thick as the thigh and could not be reduced, the extraperitoneal management will probably be the best, but such a condition is the exception.

If there were no drawbacks or dangers attending the extraperitoneal method, and the danger was all on the side of the intraperitoneal, the question of inconvenience and annoyance to the physician from the required watching of the clamp, and the offensive, sloughing mass which always results from the constriction, would be more than counterbalanced by the feeling of safety in having outside of the abdominal cavity what might have been a sloughing mass within. But there are dangers attending the former method. Putrid material sometimes passes along the line of the stump and enters the abdominal cavity from without, producing fatal peritonitis; hæmorrhage also sometimes occurs from the extraperitoneal stump, and tympanites is always a troublesome and sometimes a fatal complication. Ever since Kaltenbach, in 1874, proposed the intraperitoneal treatment for small pedicles, and Hegar employed the plan with success, there has been a constant effort on the part of operators, among whom Schroeder was the most prominent, to secure a method which would supplant the extraperitoneal. This struggle is still going on in spite of the prediction of Greig Smith that Schroeder's method of operation had probably died with him.

DISCUSSION.

DR. WILLIAM GOODELL :

The subject of the treatment of the pedicle in supravaginal hysterectomy for fibroid tumor is an interesting one. I believe that the time will come when we shall treat it differently from the extraperitoneal method, but how it will be treated is yet the question. I have lately come from a trip to Berlin, where I was much interested in seeing German surgeons at work. I found that Dr. A. Martin, who has been the great exponent of the intra-

peritoneal method, now resorts to the complete extirpation of the whole mass—viz., the womb, tumor and appendages—which, he contends, is more successful than by the intraperitoneal method. There is one difficulty in the way of dropping the pedicle to which Dr. Baer did not refer, and that is the difference between the behavior of the pedicle under a mass ligature in hysterectomy and in ovariectomy. In an ovarian pedicle, we have yielding tissue, and the mass ligature so buries itself that the distal end of the stump touches the proximal portion, and in a short time vessels bridge this gutter, and there is no sloughing. But a mass ligature in hysterectomy deals with a hard tissue. The ligature does not embed itself; a gap is left, and the blood-vessels cannot bridge it as in the ovarian pedicle; hence sloughing is liable to take place. I think, however, that in the case reported, Dr. Baer treated the pedicle admirably. It was illustrated to me yesterday that the pedicle might be treated in this way. I removed a womb with a fibroid tumor in it weighing over ten pounds by the supravaginal method. I ligated all the vessels and ligated the broad ligaments and kept on ligating until I got low down, tying all the important vessels before applying the wire clamp. The wire broke as it was being tightened, but not a drop of blood came from the stump because all the vessels had been ligated low down. That is a hint which we may satisfactorily adopt in the future treatment of the stump.

I saw four complete extirpations for fibroid tumor while in Berlin by Dr. Martin and his able assistant, Dr. Mackenrodt. The operations were somewhat tedious, but the results were excellent. It struck me then that the complete extirpation of the womb was the next best method if one cannot drop the pedicle.

DR. CHARLES P. NOBLE :

I would like to make a few remarks upon one aspect of the subject; there was one point which Dr. Baer raised, namely, that at a certain point in the operation—I think when he took off the elastic ligature—he found the ovarian arteries bleeding, and that he was able to control this by a mass ligature at the outer end of each broad ligament. I have not had this experience in hysterectomy, but in other pelvic operations, where there has been a great deal of hæmorrhage difficult to con-

trol, I have checked it in this way. I wish to add my testimony to the value of this expedient for the control of hæmorrhage in the pelvis from the broad ligament. A ligature passed toward the pelvic wall under the ovarian artery will control the bleeding largely. Again, by passing another ligature low down under the uterine artery, bleeding can be controlled that cannot be controlled in any other way. I recently had a case which tested the value of ligatures applied in this way as thoroughly as it is possible to test the method. This was a case of ovarian tumor having a cancerous base—the entire broad ligament. It was necessary to tear this out, and blood poured over the abdominal wall in a stream. It was impossible to sponge it away as fast as it ran out. I ligated the ovarian artery by touch, and controlled the bleeding in part. I then passed a second ligature around the uterine artery, controlling it completely. Then it was possible to pass linked sutures through the broad ligament, and secure the raw surface.

DR. M. PRICE :

Complete extirpation of the uterus from above, by section, is not a German method. There is now a controversy pending. Dr. Mary Dixon Jones, of Brooklyn, claims that she has been doing this operation for years. Last winter I saw my brother remove a cancerous uterus in that way. The stump was so friable that it was impossible to keep the pins in. The broad ligament was clamped, the vessels tied, and gauze packing from the vagina employed for drainage. The woman made a rapid and complete recovery. There are, however, numbers of cases where it would be utterly impossible to drop the pedicle, and it would be impossible to extirpate the uterus within a space of time that would warrant the operation. When we can have such a record, as my brother has, of forty-three consecutive successful operations, and such as Lawson Tait, Bantock and Keith have had with Koeberle's *nœud* and pins, I do not think that there is any operation in surgery which gives such complete control of all the conditions present, where such desperate work for the relief of the patient has been done with such a low mortality. Hysterectomy, done as it should be done, by the extraperitoneal method, with the use of the *nœud* and pins for safety, should not give

more than two or three per cent. mortality, even in the desperate cases. We only operate on patients who are dying or crippled and of no use in the community. The mortality is certainly as low as that of any other operation in surgery, even for the very slightest condition. Therefore, I think that there is no necessity for looking for an intraperitoneal method.

DR. J. M. BALDY :

There is one point in regard to the treatment of the pedicle that has not been commented upon—that is, the danger of hæmorrhage following dropping of the pedicle. The mortality of the intraperitoneal method has been much larger than that of the extraperitoneal, and this has probably, in great part, been due to hæmorrhage. Dr. Baer's case shows what will happen in trying to secure uterine tissue with a simple ligature. You have a distinctly hard, contracting tissue. You may ligate the vessels so that there will not be a particle of bleeding, and, in half an hour, the ligatures would be so loose that they could be blown off. If Dr. Goodell had dropped the pedicle in his case, the patient would probably have died from hæmorrhage, from contraction of the tissue and consequent loosening of the ligatures. I know of one case in which that occurred, and the patient bled to death, because the surgeon was not present, and the nurse did not know enough to screw up the *nœud*. This is the danger of treating the pedicle by the intraperitoneal method, rather than sloughing.

The mortality of the two methods is distinctly in favor of the extraperitoneal plan. In the latter method it is only an accident which will cause the loss of the case. The cases of hysterectomy that I have seen have done better than ovariectomies, and have had a less complicated convalescence. They give little trouble and not much anxiety. When I place the wire, and have the stump under control, with the patient in bed, I feel that she is safe, and that nothing but an accident, referable to the surgeon or his assistant, will lose the case. It is not true that these stumps slough. They should not slough. They come away by a process of mummification. If they do not do so it is the surgeon's fault. I have had many stumps slough, but it has been my own fault, and I

have obviated it in other cases. They dry up and become as hard as a piece of board. It is not an objection that should be raised against the operation, but against the surgeon.

DR. JOSEPH PRICE :

There are a few points that are of great interest to us all. The counsel to drop the pedicle is of vital importance. The management of the pedicle, or what stands for the pedicle, I regard as the most important step in hysterectomy, and great progress has been made in the past few years in perfecting the operation, and our success rests largely with our present mode of treating the pedicle. There is a class of young operators, all through this land, who are tempted to do what they have been counselled or influenced by our discussions to do, and these may attempt the intraperitoneal method. We have all been benefited by a study of the work of the pioneers in this field, Koeberle, Hegar, Pean, Keith, Bantock and others, in the extraperitoneal treatment of the pedicle, and Martin and Schroeder, particularly, with the intraperitoneal method. I am sure that I have been benefited by a careful study of all the methods known, particularly with causal relation of method to mortality. If I had not made this study I could not have done the operation without a frightful mortality. Bantock, with his huge experience in abdominal work, lost all his cases done by the intraperitoneal method. He then adopted the extraperitoneal method, and his results at once became almost perfect, notwithstanding his method was not perfected until his thirty-third operation, where he applied his transfixion pins, and formulated the law, "Never cut away the tumor until the pedicle has been transfixed with the supporting pin." I think that it was in this operation that he transfixed the pedicle before cutting away the tumor. In the thirty-second operation he had a retracted pedicle, and lost his patient from hæmorrhage. He was feeling his way a long time before he reached a safe method with the extraperitoneal method. Mr. Keith also operated in both ways, and succeeded with the extraperitoneal method. The statistics given by Martin, in a recent number of the *ANNALS*, give us perhaps the clearest understanding of what can be ac-

complished by the intra- and extraperitoneal methods. The argument in regard to the treatment of the pedicle in ovariectomy will not answer in favor of the same method in hysterectomy. It is wholly erroneous, as the structures and conditions are entirely dissimilar. You might put the pedicle in hysterectomy under hydraulic pressure, and in a few seconds it would be bleeding. The shrinkage is very great. Keith's and Bantock's operations in which they attempted to tie the vessels and to use the cautery were all failures. Schroeder's mortality was above thirty per cent. In Martin's method, the mortality with the intraperitoneal and extirpation methods is above twenty per cent., and with the complete extirpation method it is very high. I have had two complete extirpations by opening the anterior and posterior fornix, and using a chain or link suture, four or six on a side. This is the quickest method. I agree that in all probability the complete extirpation will be the future operation. It is simply a question of who is willing to give it a fair trial. I am satisfied that opening of the posterior fornix and the use of the chain suture, with the same on the other side, is a safe and speedy method. Both of my cases recovered. This will do away with the clamp and abdominal drainage. You can use gauze drain, as after the vaginal extirpation of the uterus. I am satisfied also that the upper extirpation will be the method. The obstruction and other complications and the inflammatory adhesions due to advanced tubal or ovarian disease will be too great to establish the vaginal operation even in malignancy. Coe gives two cases of bowel obstruction in ten vaginal extirpations. In my own experience with vaginal hysterectomy, the complications have been so great—omental and intestinal adhesions—that I have been tempted to abandon the operation and do it from above, using figure-of-eight or chain sutures. The vaginal operation is one of the most clumsy operations in surgery. It is unscientific and unsurgical when we think of our refined methods in other pelvic work. Here we apply huge clamps to the broad ligaments when a few threads would answer the purpose.

DR. BAER :

Has Dr. Price ever dropped the pedicle?

DR. PRICE :

I have not—I have never attempted to drop the pedicle. I have been influenced wholly by the work of others and my own experience.

I think that what Keith has said in reference to the natural history of fibroid tumors is scarcely correct. My experience is that the patients live along in misery—a burden to themselves and to their friends. A patient, thirty years of age, with a huge tumor and bleeding half of the time, came into my office to-day. She bleeds two weeks out of the four. The tumor is sensitive and adherent. Why should we permit her to bleed for the next ten years? She is totally incapacitated for everything, and suffers perpetually, with never-ceasing discomfort, three hundred and sixty-five days in the year. My experience is that with a healthy tumor removed from a healthy peritoneal cavity, the patient always recovers speedily. I have never known it otherwise. For the last few years I have been pleading for early hysterectomy as Bantock pleaded for early ovariectomy. When we come to early operations on fibroids and the removal of healthy tumors from healthy peritoneal cavities, our mortality will be *nil*. In hysterectomy our mortality is due to neglect and delay and the complications incident to the growth, to pressure, to renal trouble and to retrograde changes, often malignant in nature, occurring in the surrounding viscera from pressure.

I might speak of some sad experiences that I have had. I may relate them because my patients are living. In one case I severed both ureters. The patient had had the electric trocar plunged below the umbilicus eleven times and had had eleven angry attacks of peritonitis confining her to her room for three years. The tumor was small at the beginning of the treatment. I have no doubt that the attacks of peritonitis anchored the ureters with the other viscera, and they were carried up in the development of the tumor. Notwithstanding I clamped the broad ligaments under the ovaries at the highest level and deperitonized the tumor and dropped down the anterior capsule and applied my Koeberle, beginning with a pedicle sixteen inches in circumference—notwithstanding I took all these precautions which I could not improve upon unless I catheterized the ure-

ters—I severed both ureters and had to switch the ureters into the bladder. This woman is living. I could relate a number of experiences not so alarming. I have lost four out of sixty-nine hysterectomies—two deaths in first eight cases, hopeless from malignancy; forty-three consecutive without a death; lost the forty-fourth; lost the sixty-second—hysterectomy—five weeks septic before section; the hysterectomy complicated by suppurating cystoma, right side. Two of my first eight cases were utterly hopeless malignant cases. I now dismiss a few cases of unquestionable malignancy. One returned in eight months with general invasion of the abdominal viscera. I insist that if we are to have a *nil* mortality—and I insist that we should have it—we must operate early, before the occurrence of complications. It is the murderous operations that follow great complications that give us our deaths. I plead as strongly for early hysterectomy as I would plead for early ovariectomy. There is nothing that pleases an ovariectomist more than the removal of an ovarian cyst as small as a hen's egg. An inch and a half incision, a small cyst delivered, a small ligature, and a few stitches complete the operation. We can have the same results in hysterectomy.

DR. B. F. BAER :

I wish to reiterate the statement made in my paper, that I believe, in the perfected hysterectomy of the future, the pedicle will be treated intraperitoneally. And the sooner those of us who have had the largest experience in abdominal surgery will have the courage to drop the pedicle, after some form of treatment, the sooner will that time be reached. I do not favor Martin's method of entire removal of the cervix, because it weakens the pelvic floor, and also because it is unnecessary. The cervix is necessary to preserve the strength as well as the anatomical shape of the lower portion of the abdominal cavity. If the cervix is trimmed to the extent of reducing it to nearly the size of a normal cervix which can be done in nearly all cases, and then the edges are brought together so that they may unite somewhat as the two surfaces which are brought together in the repair of a lacerated cervix, it is not necessary to remove the entire organ. Now, when the cervix is disposed of by treating it in the manner described above, I contend that

the tissues which are ligated are the same as those ligated in ovariectomy—namely, the broad ligaments. I pass the ligature so close to the cervix as to include the uterine artery, if possible, and then tie outward around the outer surface of the broad ligament, and do not encircle the cervix *en masse*. It does not require a mass ligature. In that fact, non-ligation of the cervix *en masse*, consists my peculiar method of treating the pedicle. If required, the uterine artery can be tied separately. Treated in that manner, I repeat, why should the pedicle not be dropped? There can then be no danger from sloughing, and not any more danger from hæmorrhage than there is after ligation of the ordinary ovarian pedicle. I do not insist that the pedicle can be treated intraperitoneally in every case at present. It is necessary to individualize here as in every other operation. ●

I agree most emphatically with Dr. Price in regard to the necessity of early operation, and I believe that in the smaller tumors, those removed early, the pedicle can be dropped in every case, and that then the mortality will be lower with the intraperitoneal than with the extraperitoneal method, and the after-condition of the patient will be infinitely better.

DR. WILLIAM GOODELL :

TRENDELENBERG'S POSITION AND THE USE OF CATGUT IN HYSTERECTOMY.

This summer I spent a month in Berlin where I saw but few of the older operators—in fact, only Dr. A. Martin—but their assistants were hard at work, and I was especially struck by two things: one was their use of the Trendelenberg position and their employment of catgut. Undoubtedly the position of Trendelenberg is a great advantage in certain operations in the pelvis—for instance, in deeply seated and fixed ovaries and tubes in which hæmorrhage may occur and the patient is weak and cannot afford to lose much blood. In the operations which I saw there was no protrusion of the intestine, the recti muscles were flaccid, and one could see what one was doing. So impressed was I with these advantages that I purchased a German table with this attachment, and tried it about two weeks ago, most successfully, in a very forlorn case. The lady was greatly reduced, weighing only eighty pounds, from

large pus tubes and abscess of the ovaries, which had burst repeatedly into the vagina and rectum. I knew that the adhesions would be formidable, and I was extremely anxious that she should not lose blood. So the patient was put in Trendelenberg's position, which enabled me clearly to see what I was doing, and to arrest every bleeding point at once in a very formidable operation. The patient recovered, but her convalescence is a slow one, her vitality being so low that she was threatened with a bed-sore.

I have always been afraid of catgut, fearing that it was too short-lived for the large vessels of the pedicle. All of us, however, have had fistulous tracts from silk ligatures that have become infected either from a septic operation or from a drainage tube. Sometimes we are able to wash the ligature out and sometimes to hook it out. For instance, the last fistula that I had in my practice was in a lady who lived over a thousand miles from the city. She returned home with a small fistula at the site of the drainage tube. This refused to heal up, and after several months she returned to me. Fortunately, after several attempts, I was able to hook the ligature out. In other cases I have not been able to get the ligature away, and in one case the fistula still exists. With this experience it is my intention in future to use the gut for ligating the pedicle in cases which need drainage. By-the-by, I did not see one drainage tube used while I was away. The leading physicians of Berlin are opposed to it, and resort to it only in extraordinary cases. Instead of the tube they then use iodoform gauze, which is passed into the cavity, either per vaginam or through the abdominal incision a tail being left outside. Finding that catgut was used by them with impunity in all their gynæcological work, I have, since my return, twice successfully performed vaginal hysterectomy for cancer, using catgut to ligate the vessels. Such ligatures need no further attention, as in time the loop is absorbed, and the knot, if in the vagina, falls off of its own accord, or it also is absorbed.

I found that no two physicians prepared catgut in the same way. The simplest way—rather too simple, it seems to me—was to place the gut, without any preliminary treatment, in a solution of

Corrosive sublimate,	one part.
Water,	twenty parts.
Alcohol,	eighty parts.

Some place it in ether, then in a solution of corrosive sublimate, and finally in a mixture of alcohol and juniper oil. Others place it in a mixture of alcohol and glycerine.

In a case of supravaginal hysterectomy which I did yesterday for a fibroid tumor, I tied off with catgut all of the vessels in the broad ligaments. In future I think that I shall restrict myself to gut in all abdominal work. If aseptic, as it always should be, it is not a foreign body, as silk must always be.

DR. M. PRICE :

Has Dr. Goodell any idea of the number of cases they lose from hæmorrhage ?

DR. GOODELL :

I told them my fears, but they laughed at them. I saw Martin and his chief assistant each remove large fibroid tumors, together with the whole womb, using the quilted suture, doing all with catgut. I saw several hysterectomies by the vagina in which nothing but gut was used. They say that they consider the catgut more potent than silk, because by swelling it becomes tighter, therefore holding better, and that it lasts sufficiently long. Pean, of Paris, has given up the use of ligatures even in amputations. He applies hæmostatic forceps, keeping them on from forty-eight to seventy-two hours, and then takes them off. If this, without danger, can be done with a vessel as large as the femoral, certainly the much smaller uterine and ovarian vessels must be safe with ligatures which last certainly over a week.

DR. WM. REYNOLDS WILSON :

Reference has been made to the German method of treating abdominal sections and the use of drainage; and although hesitating to say anything in this connection, I should like to describe the method adopted by Professor Winckel, of Munich. I had good opportunities to see it, and it will be suggestive in certain ways. Dr. Winckel selects his cases for ovariectomy. He has very few tubal cases. He manages that in the clinic. He does three or four ovariectomies a week and rarely uses drainage. I have never seen him use drainage in a simple ovariectomy. In two cases, where there was excessive hæmorrhage, he introduced strips of iodoform gauze

which were removed after several days. Both cases recovered. I saw Dr. Goodell introduce the catgut sutures in one of his operations. He followed the same method as Professor Winckel. The sutures interlock, and one is passed around the others. Dr. Winckel uses silk, and uses it lavishly. He first introduces a suture including the tube; then one around the spermatic artery, interlocking but taking care that the outside suture is introduced just within the fold of the pedicle, so that it does not include the ligament all around. After that he includes the whole set in an extra ligature. This will illustrate his method and the small regard that he has for fistulæ. In addition, he trims out the fibrous part of the stump and draws the peritonæum over it with sutures of catgut.

DR. J. PRICE :

It is curious how experience differs in pelvic and abdominal surgery. I often wonder why men have to ligate the ovarian and uterine artery. I have had many cases in which ligatures cut through cheesy structures. I have removed huge pus tubes which could be pinched off without any hæmorrhage, the only ligature required being, perhaps, to adhere omentum. If the ligature cuts through cheesy structures, the vessels are not to be feared. I have not had occasion to pass a ligature around the ovarian or uterine artery. Hæmorrhage usually occurs from the surgical neck of the ovary and from adhesions extending from the ovary to the pelvic wall. There I have seen vessels spurt and have used hæmostatic forceps and left them on until I had completed the ligature of the tube and of the surgical neck of the ovary, tying below the bite of the forceps. I sometimes think that the men who resort to all sorts of experimentation and extraordinary methods of controlling hæmorrhage are the men who have the highest mortality. The operators who have reached the acme of simplicity in their methods—who employ the shortest incision, least ether, quickest operation, the least exposure, the least manipulation and the finest ligatures, irrigation and drainage—are the men who approach nearest to a *nil* mortality. Our method should be reduced to the greatest simplicity and perfection, and most accidents come from what may be called experimental methods.

DR. J. M. BALDY :

In regard to keeping catgut without passing it through ether, I have never used catgut in abdominal work. I have used it recently in plastic work. I keep it simply in pure alcohol. I have not seen a case in which it did not last sufficiently long, nor has there been trouble from it. I take the gut as it comes from the shops and put it in absolute alcohol.

I think that there is no question that in certain cases Trendelenberg's position has distinct advantages. I attempted to improve this position once during the summer, and did it so successfully as to convince me that it had advantages. In my case, on account of the table, the pelvis was elevated a little too high and made it awkward to work. I can see no great advantage from it unless there is deep hæmorrhage. If there is hæmorrhage, and the patient is in Trendelenberg's position, you can see what you are doing. In other cases I think that I should stick to the dorsal position.

As far as catgut sutures and fistula are concerned, I cannot see that the connection is a direct one. I have known a fistula to keep up without a ligature. I have in mind a case which I have seen twice in consultation, in which both ligatures came away, and a fistula still persists.

The fact that the Germans do not use drainage is shown in their statistics. Their mortality is high in the class of cases where we use drainage. Take Martin, who had twelve deaths in some eighty cases, about fifteen per cent., in simple pyosalpinx. The absence of drainage may explain this.

I have had some experience with iodoform gauze as a drain, and an experience which will teach me not to tamper with it again. Dr. Baer will remember a case whose pelvis I packed, at the Polyclinic Hospital. Theoretically, it may be very easy to pull it out next day, but I could not take it out. I etherized the patient, but it would not come. I took out two stitches and passed a finger into the pelvis, but it was no better. I had to leave it until it suppurated loose. I would never again use it from above. With vaginal hysterectomy it is different. There the intestines are above and simply rest on the gauze tampon. When it is packed into the pelvis from above, and you attempt to remove a large quantity of gauze through a small wound,

you will find it impossible, as the lymph has passed into the innumerable meshes of the gauze which hold it immovable.

DR. B. F. BAER :

Trendelenberg's position is no doubt a good one for certain special cases. But it is necessary to have a longer incision than I usually make, for the purpose of seeing into the pelvis. One could not see through an incision an inch and a half to two inches in length, the incision which I usually make for the removal of the inflammatory diseases of the pelvis. This is the condition in which it is thought to be most desirable to see the organs operated upon. I have not yet felt the necessity of making a long incision—four or five inches—for the purpose of removing an ovarian or tubal abscess, and have always been able to make the dissection with one or two fingers, trusting to the sense of touch alone. I would like to have one of the tables so that I could place the patient in the Trendelenberg position when necessary, and I think Dr. Goodell would only advise it in certain few cases.

I have never used catgut in abdominal work, because I have not trusted it on the one hand, and, on the other, it has always been more difficult for me to handle than the silk. Some years ago I used catgut for suturing the lacerated cervix, but gave it up because of the difficulty of handling, and because it did not hold well in several cases. Furthermore, I do not think I desire any better material than Chinese silk. I believe I have never had a ligature return in any case where I did not use a drainage tube; but I use as few ligatures as possible. I rarely tie an adhesion; if one bleeds, pressure for a little time with the hæmostatic forceps controls it so that ligation is not necessary. In ligating the pedicle I use fine Chinese silk and transfix with a *single* ligature instead of with a double one as is the common practice. By this means I leave less silk in the abdominal cavity. I use silk for the abdominal incision, and rarely see a suture abscess.

I was glad to hear Dr. Goodell say that the Germans did not use the drainage tube often. Dr. Baldy reminded us, however, that their mortality was high, and said it was because they do not use drainage. But there are other reasons for the high mortality of the Germans, and they do supply drainage in

the form of a strip of gauze which is brought out of the lower end of the incision. Everything being equal, that technique which is the simplest, cleanest and quickest is the one which will be attended with the greatest success. A short incision, entire removal of the diseased organs, irrigation if necessary, and closure of the abdominal cavity without drainage, have been most successful in my hands. I have drainage tubes with me when I go to an operation, but I always feel happy after leaving my patient to find that I still have the drainage tubes with me, and that I have not left one projecting into the abdominal cavity of my patient. Practically, I do not use drainage, except in those rare cases where there has been extensive peritoneal and cellular suppuration and the pus is decomposing. My patients recover better than formerly, when I used drainage more frequently.

I agree with Dr. Price that uncontrollable hæmorrhage in the pelvis must be exceedingly rare. Hæmorrhage from breaking adhesions is easily controlled. If it comes from tearing of the broad-ligament veins, that is usually the fault of the operator. By a better technique we shall get rid of hæmorrhage and drainage, and some other things that are not desirable.

DR. C. P. NOBLE:

With reference to the use of gauze in the pelvis, I think that it is just in that class of cases that ligation of the uterine and ovarian arteries will be of service. That has been my experience. It is only in exceptional cases that these sutures are required. The case to which I referred was one in which the whole broad ligament was cancerous. This, of course, I only suspected before the operation was commenced. A large ovarian tumor was ruptured, and it was necessary to complete the operation. When the mass was pulled up from the pelvis it tore off, and the whole side of the pelvis was bleeding. It would have been absurd to attempt to hunt for vessels. By this method the hæmorrhage was checked in two minutes. I have used the same plan in intraligamentary cysts. I have had a number of these where the tumor had to be stripped out. If you begin at the pelvic wall and pass a deep ligature it makes a great difference in the ease of the operation. I think that these two ligatures will in many

instances avoid the necessity of resorting to gauze packing for hæmorrhage.

I have never used catgut in the abdominal cavity, having been afraid that the knots would come undone. Dr. Dudley, of New York, states that he uses nothing else, and his results are good. I have in other operations used catgut, prepared by heating in an oven for four hours. The temperature is gradually increased so that the last hour it is 250° F., and the last half hour it is 280° F.; in this way you can be certain that the germs are cooked. The gut is then placed in carbolyzed alcohol. The method is that of Reverdin.

My experience with sinuses in the pelvis has not been great, but still I have had a number. In some of the earlier cases, I am satisfied that it was the result of not removing all of the diseased tissue. I am satisfied that this imperfect work is at the bottom of a good many sinuses. Where the disease extends to the uterus, and perhaps the cornu of the uterus is involved, you have either to cut out the horn of the uterus and secure that by special ligatures, or else leave diseased tissue, and from this I believe that a number of fistulæ come. I have made up my mind that when I meet with such a case, instead of tying off the tube and leaving half an inch of diseased tube, I shall excise all the tube and secure the vessels and then ligate the tube and ovary.

In reference to Trendelenberg's position, I was present at the operation to which Dr. Baldy referred. It was interesting to look in and see the pelvic viscera, but I do not see that there was any great advantage, for you have to be guided by your finger-tips in separating the parts. In cases where there is much hæmorrhage, and particularly when the bowels are adherent down over the mass to be removed, it might be of a good deal of service for separating bowel without tearing into it, and for controlling the bleeding. It occurs to me that there is a positive objection to Trendelenberg's position in pus cases. If in the manipulation the tube should be ruptured the pus would tend to go toward the diaphragm, and it seems to me that it would be inconvenient to irrigate afterward. As the pus would tend to go toward the diaphragm, the water would tend in the same direction. I should like to hear Dr. Goodell's opinion in regard to this suggestion.

DR. G. BETTON MASSEY :

I have had the pleasure of being present at a number of operations at the hands of Philadelphia surgeons. As a looker-on I was struck with the fact that there did not seem to be much truth in the general assumption that in an operation one had the advantage of looking at the diseased parts. So far as I could see, it was another method of feeling from above. The looker-on, and apparently the operator also, can see nothing until the specimens are removed. In the Trendelenberg position, which I saw in one case, there did seem to be some possibility of seeing. I should think that that possibility might be increased by the use of artificial light. In the case that I saw at the Gynæcean Hospital the parts were dilated with air, and a small Edison lamp on a slender shaft would have aided in determining the existence of inflammatory tissues. The light might be placed in the vagina also, and by translucence aid in the localization of collections of pus.

DR. JOSEPH PRICE :

I am sure, from my experience with angry suppurative forms of pelvic diseases, that but little of adherent viscera will recede from the pelvis in the Trendelenberg position. In three cases I saw this week the viscera would have torn before they would recede. The simple recession of the viscera certainly favors the spread of pus. All using the position say that they place a sponge diaphragm and protect the viscera. The Germans do not irrigate. They rely on sponging. Martin's statistics settle the question of the importance of drainage. A mortality of twelve in seventy-two, or fourteen in seventy-six, would stay the hands of successful American operators who are operating for the patient with a *nil* mortality.

The Trendelenberg position does not shorten the distance to the pelvic floor or wall. In inflammatory troubles all the structures are fixed in the pelvic basin, and it is well that they are. It gives us a well-defined surface on which we can work. There is no advantage in seeing diseased bowel and leaving it. All adherent bowel *should be released*. Cheesy and disorganized viscera should be removed. In some cases the bowel requires resection or anastomosis. In the last five days I had to do an extensive separation requiring anastomosis and resection.

If I had left the adherent ileum the patient surely would have died of bowel obstruction. In one difficult operation in the past year I left a knuckle of ileum adherent to the promontory of the sacrum. I failed to secure a movement of the bowels, and in five days was compelled to reopen the abdomen. It has always been my inflexible rule to separate all viscera. I deal with nothing else but angry forms of inflammation in the pelvis. The Germans, if I am to believe the testimony of McMurtrie, Peck and others who have spent much time on the Continent, do these operations only exceptionally. They treat and teach cellulitis. They are not doing operations for suppurative disease of the pelvic viscera.

I use drainage in ninety per cent. of my cases, and it is exceptional for me to have a sinus. I always use irrigation, followed by drainage. I make clean enucleations, tie closely and remove all diseased structures, follow with irrigation and glass drainage tube, and complete all operations at any cost.

DR. WILLIAM GOODELL :

I wish to correct a mistake of Dr. Price's in regard to the Germans not removing pus tubes. I saw Dr. Martin and his first assistant, Dr. Mackenrodt, remove a number of them. I also saw Dr. Winter, the assistant of Dr. Olshausen, remove adherent pus tube on three occasions.

I do not by any manner of means advocate the Trendelenberg position for every operation; but in the case Dr. Price referred to, in which he had to resect a portion of the bowels, I think that the manipulation would have been very much facilitated by this position.

Dr. Noble spoke of the danger of infection from bursting of pus tubes in this position. This happened in my case. But since I saw everything, I was guarded against every untoward contingency. I had placed a sponge diaphragm over the bowels, and, as I could plainly see the point where the pus extended, I had complete command over it. This, however, was an exceptional case; the woman was reduced to almost a skeleton, and I was anxious she should not lose any blood. The case had been examined by an excellent diagnostician, who thought that there was a fibroid tumor of the womb because the ovary and pus tube on the left

side, which were both greatly enlarged, were adherent to the womb. I saw the points from which hæmorrhage and pus came, and I controlled them both. I grant that the incision was longer than usual, but I wished to guard against every danger, and I succeeded. The abdomen was afterward irrigated, but the patient was first placed in the recumbent position, and not kept in the former position, as Dr. Noble supposed. I feel positive that this position is an excellent one in cases of adherent intestine. I saw one case operated on by Dr. Winter in which the intestines enveloped the whole tube. He could see what he was doing, and even I, standing a few feet off, could see what he was doing. Grave mistakes sometimes have been made in these operations. Intestines, mistaken for tubes, have, to my knowledge, been ligated and cut off; unseen, and therefore undiscovered, rents have been made in the adherent bowels. So, in certain exceptional cases, it is of advantage to have the aid of sight in our manipulations, and Trendelenberg's position most certainly affords us this benefit.

DR. J. M. BALDY:

CERVICAL CANCER IN A NEGRESS, 28 YEARS OLD, PRESUMABLY A VIRGIN.

I am desirous of putting the following case on record for the double reason that cancer of the cervix is said to be a rare disease in the negress, and because it is said never to have been seen in a cervix which had not been lacerated. The case is an illustration of the exception to these rules. The patient, a full-blooded negress of about 28 years of age, consulted me for continued and free vaginal bleeding. She had severe abdominal pains, and was wasting rapidly in flesh. She had been under treatment for various complaints, but had obtained little or no relief. A digital examination disclosed a mass, half filling the vagina, which bled freely on touch, and had a soft, velvety feel. The mass was evidently an enlarged and elongated cervix, and there was little difficulty in determining it to be malignant. A few days later I started to do a vaginal hysterectomy, but, by the time I had curetted the large mass of cervical disease away, it became plain that the vaginal vault was involved for an inch or more all around the cervix. As much of the diseased tissue as possible was removed, and the parts

cauterized with Paquelin's cautery. The patient returned home, and when last heard from, a month after the operation, was holding her own.

RESULTS OF A VAGINAL ABSCESS.

During the past summer a woman, 30 years of age, applied to me for treatment for a threatened miscarriage. While in the hospital she aborted, and vaginal douches were ordered. She complained very bitterly of the syringe hurting her at times, and finally told me that she frequently had the same trouble with her husband during coition. A vaginal examination disclosed a flap lying transversely across the vagina throughout its whole width, near its opening. On lifting this flap it was seen to extend back into the vagina for the distance of an inch and a half. The flap with the vaginal floor formed a cul-de-sac, into which the nozzle of the syringe evidently entered, causing the pain of which she complained. She explained that at one time an abscess formed at this point, and finally discharged some ounces of pus; that ever since this time she had been suffering with great pain whenever her husband's penis entered this blind pouch, which, she assured me, was quite frequent. At her earnest request, I trimmed the walls of the pouch away, and united the raw surface by a continued whip-stitch all the way around, the line of sutures forming almost a complete semicircle. The wound healed without any difficulty, leaving a comparatively smooth surface.

UNDIAGNOSED EXTRAUTERINE PREGNANCY.

During the past summer a patient was sent me, by Dr. D. Hayes Agnew, who complained of an abdominal pain and who had a pelvic tumor. The girl was about 28 years old and unmarried. She stated that six weeks or so ago she had had a miscarriage, and had been having irregular uterine hæmorrhage ever since. The abdominal pain was very severe at times. With this history and the assurance from her doctor that she had had a pelvic tumor for some time, I made an examination and found a perfectly free, cystic tumor about the size of an orange. I made a diagnosis of ovarian tumor, complicated by pelvic peritonitis following abortion, a number of instances of which I have seen and reported to this society. The girl was put to bed, and, as I had a number of other operations on hand, was allowed to wait for several weeks. Dur-

ing this time I saw her almost daily. She complained of considerable pain in the abdomen, in consequence of which she was kept in bed, had hot vaginal douches and purgatives, with an occasional turpentine stupe, and on several occasions an eighth of a grain of morphia to give her a night's rest. At the operation I was greatly surprised to turn out a tubal sac, containing a fœtus about three months old. The sac was unruptured and perfectly free from adhesions. The convalescence was an easy one. I do not pretend that after a careful study of the case one could not have found enough symptoms present to warrant a diagnosis of ectopic gestation. I only wish to point out that although the patient was under my care for two weeks or more, none of the symptoms were characteristic enough to even arouse my suspicions as to the true character of the case. At any time during this period the sac might have ruptured and the patient been lost. It is a good illustration of the dangers of putting off the removal of a pelvic tumor.

I was all the more impressed with the circumstance of not having made the diagnosis for the reason that I had the same day assisted Dr. Wm. Ashton in an abdominal section for a pelvic tumor which proved to be a ruptured ectopic cyst. He had gone through much the same experience that I had, and had supposed he was dealing with pus tubes. We were both greatly surprised at the outcome of the operation. As I have often claimed before, it is no new thing for ectopic gestation to exist and become well advanced without being discovered, but two experiences of this kind in one day are certainly unique.

DR. WM. E. ASHTON:

A CASE OF ECTOPIC GESTATION UN- DIAGNOSED.

Mrs. J. W., 25 years old, white, married nine years, one child; eight years ago labor normal. Has had at different times three miscarriages, all of which have been in the third month.

Puberty at 14 years old, and regular in all respects up to her first pregnancy. Since the re-establishment of menstruation after the birth of her child in 1883, the flow has been accompanied with severe pain during the first day; at the end of the first twenty-four hours a clot would be discharged and the suffering cease.

During the last two or three years, although she has complained of more or less pelvic distress, her health was fairly good until the 12th of February, 1891. At this time she was suddenly taken with severe pain in the lower part of the abdomen and inner part of both thighs. This symptom lasted for twenty-four hours, and the following day her menstruation appeared and lasted until the 16th. It reappeared again on the 20th, and continued off and on until the date of operation, March 6, 1891; shreds of tissue were frequently seen in the discharges. On the 18th of the month the pain in the lower part of the abdomen returned, accompanied by nausea and vomiting; at the same time the patient complained of a pulsating sensation in the pelvis. I first saw the patient on March 4, 1891, and upon examination I found the uterus strongly retrodisplaced and fixed, with a large fluctuating mass upon the left side. The diagnosis of an ectopic gestation or pus was made and immediate section urged. On March 6, 1891, section was performed. The adhesions were dense and required not a little care in freeing them. The pelvic mass proved to be an abscess of the left ovary with chronic inflammatory thickening of the tube, which contained cheesy matter, but no pus. The appendages upon the right side were delivered and found to be apparently normal. As the patient had exacted a promise that they should not be removed if found healthy they were left *in situ*. The patient made an uninterrupted recovery, and was discharged at the end of the fourth week.

On the 12th of July, 1891, I was again called to see the patient, and found her suffering intensely with pelvic and abdominal pain. She gave the following history: Seven weeks after her operation of March 6, she had had intercourse with her husband, and one week later began to lose her appetite and suffer from nausea. This condition continued until the 6th of June, when she was taken with severe pain in the lower part of the abdomen, which continued for several days, and was followed by the expulsion of a mass from the vagina, which she took to be an abortion. After the expulsion of this mass there was entire cessation of pain, and she went around as usual, free from any symptoms. On the 5th of July the pain in the lower part of the abdomen returned and was accompanied with nausea and vomiting. At

no time was there any hæmorrhage from the vagina, except for a few hours following the expulsion of the supposed ovum. Upon examination I found her suffering from peritonitis and the pelvis completely blocked by a mass. The character of the pelvic tumor I was unable to determine, as the examination caused intense suffering. A diagnosis of peritonitis due to pus following abortion was made and immediate section urged. Laparotomy was performed on July 14, 1891, at the Polyclinic Hospital. A fluctuating tumor, which was generally adherent, was found blocking the pelvis. In breaking up the adhesions the tumor ruptured, and a dark pus-like-looking fluid welled up through the abdominal incision. The fluid looked so like pus that I felt certain my diagnosis had been correct and I was dealing with a pus tube. After the mass had been delivered, however, I was surprised to find that it was an ectopic gestation cyst. Although the pelvis contained a large quantity of debris there was but little blood. The peritoneal cavity showed all the evidences of a general peritonitis. The patient made a good recovery and was discharged in five weeks.

This case presents to the surgeon two points of great interest. First, the uncertainty in the diagnosis of ectopic gestation, and second, the occurrence of an extrauterine pregnancy seven weeks after the tube had been carefully examined during a section and found to be apparently healthy.

Prior to the section of March 6, there were many points in the symptoms and history of the case that led me strongly to suspect an ectopic cyst. Certainly the child-bearing history, the pain in the lower part of the abdomen, the gastric irritation, the irregular menstruation, the discharge of shreds of

mucous membrane, and the mass felt on examination, all pointed toward such a diagnosis. Again, the diagnosis of pus, which was made prior to the section of July 14, was fully warranted by the symptoms and internal examination. It is not only in ectopic gestation that the diagnosis is an uncertainty, but in all forms of pelvic disease as well. I have time and again seen, not only in my own work, but in that of other surgeons, a great difference between the diagnosis and the condition found on section. It is utterly impossible, except in rare instances, to know prior to opening the abdominal cavity exactly the morbid condition present. We are only able to say that a lesion does exist, and on account of certain symptoms and results produced a section is indicated. Because a surgeon examines a case and diagnoses pus, and finds a pyosalpinx upon opening the abdomen, is no argument in favor of certainty in diagnosis, for the same surgeon will be equally confident in another instance, only to find he has been mistaken. There is no certainty in pelvic diagnosis. True, we are able to strike it, as it were, at times, but we are very far from being able to differentiate between the various lesions of the pelvis.

The occurrence in this case of an extrauterine pregnancy, following so soon after the removal of the tube and ovary on the left side, naturally brings up the question as to the advisability of the removal of both appendages when one is found to be healthy.

Although my own judgment leads me to remove both appendages under these circumstances, yet if the patient expresses a desire to retain one side if found healthy, I always concede her request.

J. M. BALDY, *Secretary.*

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

ORIGINAL COMMUNICATIONS.

Clinical Lecture.¹

BY EDWIN E. GRAHAM, M.D.,

*Clinical Lecturer on Diseases of Children, and Chief Clinical Assistant of
Medicine, in Jefferson Medical College.*

GENTLEMEN: The first patient I shall present to you this morning is a child, whose history is as follows:

G. H. S., one year old, normal delivery—*i.e.*, non-instrumental birth—partly bottle, partly breast-fed. Child enjoyed good health until two and a half months ago, when, three days after an injury, caused by the nurse carelessly wheeling the coach, in which the child was lying, off a step about two feet high, the child was seized with fever, nausea, vomiting and pain in back and limbs, demonstrated by all attempts at motion. These symptoms continued for three days, when paralysis, complete of left arm, appeared, all other symptoms immedi-

ately disappearing. The power in the arm has been gradually returning, the improvement being from below upward, movement being noticed first in the fingers, next in forearm and last in upper arm. Upon examining the child we find its general condition good, eyes clear, tongue clean, no stomach or bowel disturbance, is bright and intelligent as far as a child of its age can be. Listening to the heart both sounds are normal; the breathing is soft and vesicular, both anteriorly and posteriorly. We find, in fact, absolutely nothing except a partial paralysis or paresis of the left arm.

Paralysis in young children, especially infants, is in most instances due to causes which seldom produce it in adults. Indeed the principal cause of

¹ Delivered October 17, 1891, in the hospital of the Jefferson Medical College.

paralysis in the adult, namely, cerebral apoplexy, is quite rare in children. The main causes of paralysis in children are changes in the blood, as seen in diphtheria or scarlet fever; reflex paralysis, the explanation of reflex palsy, being a continuous connection between the local cause and the paralyzed muscles, through the afferent and efferent nerves and nervous centres; compression or injury of a nerve-trunk, as pressure of the portia dura by the blades of the forceps during birth; and lastly an anatomical alteration in the muscular fibres, the nerves and nervous centres remaining unaffected, and probably being of a rheumatic nature; or this anatomical change may be in the nervous system, the muscular system in these cases being unaffected. Examples of this latter form of paralysis are seen where congestion, hæmorrhage or inflammation of the nervous tissue is present. The case which we have to-day for consideration belongs to our last division. It is a spinal paralysis, occurring in children suddenly, and due to an inflammation in the multipolar ganglion cells in the anterior horns of the gray matter. The same disease is also seen in adults, although much less often than in children. The term infantile paralysis is, then, not an accurate one. Poliomyelitis anterior acuta describes accurately the lesion.

The main causes, active and predisposing, of the disease are heredity, neurotic family history, exposure to cold or damp, and overexercise. The influence of summer heat also seems, according to the observations of Dr. Sinkler, of this city, to play an important role in its causation.

The usual onset of the disease is fairly well represented in the case be-

fore you—nausea, vomiting, vague pains through the body, and fever, vertigo, delirium and even convulsions may be present, or the paralysis may suddenly appear, after a quiet sleep. These symptoms subside in the course of a few days, health seems restored, but the loss of power as shown by the paralysis remains. Occasionally the bladder is affected, resulting in retention or incontinence of urine. Rarely over a week supervenes between the initial symptoms and the paralysis. Sensibility is not affected. The paralysis is complete at once, but soon begins to lessen, some restoration of power taking place in one to three weeks. This may gradually continue until the paralyzed parts are completely restored in the course of a few months. During this period the electro-muscular contractility and the nutrition of the muscles are not affected, although the muscles are soft and flabby. If, however, the improvement does not continue and the muscles atrophy, the electro-muscular contractility diminishes, and in unfavorable cases after a time, powerful induced and even primary currents have no appreciable effect. Under these conditions the nutrition of the paralyzed limb is imperfect, and its growth is retarded. The naked-eye appearances of the spinal cord in these cases may be entirely negative. On microscopic examination, changes are found in the anterior horns of gray matter and in the dorso-lumbar and cervical enlargements of the cord. These changes consist of an inflammatory softening, the multipolar ganglion cells have wasted, and many have disappeared. In the muscles to which the nerves are distributed are observed an increase of the connective tissue, the forma-

tion of numerous fat cells and granules and the degeneration and disappearance of the muscular fibres. The bones of the paralyzed foot cease to grow.

One of the first questions, gentlemen, which the mothers of these paralyzed children will ask you is, "Will my child ever completely recover?" The following facts will be of assistance to you in giving a correct answer: The sooner improvement begins the more favorable the prognosis. The mildest cases usually recover completely. The moderately severe and worst cases recover entirely or in part, the prognosis in any individual case depending largely on the treatment. Muscular contraction is the proof of the presence of the muscular elements. If wasted, the muscles do not respond normally to the faradic current, but will contract on the application of a weak and slowly interrupted galvanic current.

In regard to the treatment of these patients, during the first few days of fever, a light diet, with sponging and a mild fever mixture, will fulfil all the indications. Dry cups or cold applications over the spine, with ergot or iodide of potassium internally, will be found most useful after the onset of the paralysis. But if, gentlemen, after two weeks, the paralysis continues, or if it has not progressively diminished during this time, muscular atrophy may commence, and then iron as a general tonic, with strychnia, should be given, and massage with friction made use of. Electricity here is an invaluable agent. The induced or faradic current should be used upon the limb every day or two. If the muscles fail to respond to its employment, the direct or galvanic current should be applied.

The next case which I bring before you, gentlemen, is a boy whom I saw in our out-patient department a few minutes ago for the first time. We will examine him before you.

His name is Thos. R., aged 5 years, parents living and healthy. His birth was non-instrumental; the labor was difficult and tedious. As far as his parents could judge, his health was good until the age of 7 months, when he had two slight falls one week apart. Two weeks after the second fall he was noticed to be dull and drowsy-looking. Remained in bed in this condition three weeks, taking his nourishment well, apparently suffering no pain. The mother now for the first time noticed a *peculiar look in the eyes*. Twenty-four hours later the child was suddenly seized with general clonic convulsions, lasting five hours, and followed by paresis of left arm and leg and a backward falling of the head. Full power was regained in arm and leg during the following three months, but the child was unable to hold the head erect until one and a half years after the convulsive seizure. Walked at the age of 2 years. Has never spoken. Hearing is completely absent. He is fairly intelligent and has a good memory. The child can understand *by signs* to perform slight duties about the house. To support the statement that his memory is good, his mother tells me that on one occasion the child, having lost a key which he had taken out of a door, was able twenty-four hours later (his mother threatening by signs to punish him if the key was not found) to lead her into the yard and point to the grass plot where, on examination, the key was discovered.

Upon examining the child we find him fairly well developed, good color,

heart and lungs normal, no evidence of paralysis. His head is, as you see, of enormous size, giving to the face a wedge-shape look. The diagnosis is clear. We have before us, evidently, a case of chronic, well-marked hydrocephalus.

Chronic hydrocephalus, gentlemen, consists in a gradual accumulation of serous fluid within the cranium, occupying either the space between the dura mater and pia mater or the meshes of the pia mater, but most frequently the cavities of the lateral ventricles, in which latter case it produces, as we see well represented in the patient before us, the most characteristic symptoms, namely, enlargement of the head and alteration of the visage.

When the effused fluid is in the space between the dura mater and pia mater or in the meshes of the pia mater, it is designated external hydrocephalus; when in the ventricles, internal hydrocephalus. These forms may be combined. Chronic hydrocephalus is divided into two great classes: first, a simple accumulation of fluid accompanied by no inflammatory action; second, where the effusion is due to inflammation of the lining membrane of the ventricles and choroid plexus.

The non-inflammatory cases are due to diseases of malnutrition and imperfect development of the bones of the cranium. Under these conditions the blood-pressure within the vessels, not being sufficiently counteracted by the neighboring parts, causes an abnormal diffusion or filtration of the fluid part of the blood through the vascular walls. This will take place most readily at the choroid plexuses of the lateral ventricles, and after the effusion has begun every additional

extension of the cranial walls serves to thin and weaken them and render them less able to resist the gradually increasing accumulation of the fluid within. The diseases which produce this are, in the main, rachitis and syphilis.

The objective signs of the disease are typically represented in our patient. The head is enlarged, the fontanelles and sutures distended. In extreme cases the head may be more or less translucent. The veins of the head are, as you see, distended. The orbital plates of the frontal bone, depressed downward by the effusion to an obtuse angle with the body of the bone, cause the eyes to have a downward direction. This comes on at an early period, and, as we see by referring to the history of the case, was the first physical sign to be noticed. If you will examine carefully this child's eyes, you will perceive that the lower part of the cornea is to a certain extent buried beneath the under-eyelid, while the conjunctiva is visible between the cornea and upper eyelid. The enlargement of the head and downward direction of the eyes are, perhaps, the two most uniformly present symptoms.

That the special senses should be interfered with is but natural, but the investigation of them in children is extremely difficult. Hearing, as is the case with this patient, may be completely lost, blindness or impairment of vision is common, the sense of smell may be altered or abolished, and while the mental faculties may be to a certain extent preserved, feeble-mindedness in various degrees, and even idiocy, may be present. The body is usually poorly developed. Tremor, stiffness and paralysis, more

or less extensive, may be present. Convulsions, either general or local, often occur. The cerebral hemispheres are found post mortem in these cases to be greatly altered; the pressure from within gradually unfolds the convolutions of the brain; the hemispheres are spread out in a thin lamina on either side, gradually decreasing in thickness from the base of the brain to the vertex. The parts which lie on the floor of the lateral ventricles are found to be much changed in appearance, due to the severe pressure to which they have been subjected. The cornua are enlarged, and the optic thalami and corpora striata are flattened.

The hydrocephalic fluid may be identical with the cerebro-spinal fluid, or it may be turbid and contain albumen, sometimes the percentage of al-

bumen being quite high. The presence of albumen, beyond a very small amount, furnishes the presumption that the effusion is the result of or accompanied with inflammatory action.

The treatment of these cases is not satisfactory. We will have this child's head compressed by adhesive straps, care being taken not to cause too great pressure, as convulsions might result. The child should be placed under the very best hygienic conditions; he will be ordered a light, easily digested and nourishing diet, and internally we will begin with three drops of a saturated solution of iodide of potassium in water, given three times a day, after meals. This dose will be increased one drop every day until the child shall be brought thoroughly under the influence of the drug.¹

Nutrition in the Diseases of Children.

BY WM. A. DICKEY, A.B., M.D.,

OF TIFFIN, OHIO,

Professor of Diseases of Children and Hygiene, Toledo Medical College.

I KNOW of no subject in the whole range of medical literature that is of more importance to the practitioner of medicine than that of the nutrition of children during disease. When the astonishing fact is presented to us that of the 800,000 who die annually in the United States, more than fifty per cent. are children under 5 years of age, and that, too, from food either of improper quantity or quality, or improperly prepared, its significance becomes doubly important. No prob-

lem (antiseptic surgery excepted) has received so much attention during the past decade with such happy results, so far as a more thorough and extended acquaintance with the different methods of preparing and administering food in a concentrated and digestible way is concerned, than has the subject of infant feeding and infant dietetics. There is yet, however, much to be done. There is a

¹ The child is at present taking twenty-one drops, three times daily. No change in condition is noticed.

lack of appreciation on the part of many physicians of this important aid in the treatment of disease. The laity often entirely fail to grasp the idea, even when pointed out to them by their medical adviser, that food, concentrated and easily digested, given at proper times and stated intervals, means life in sickness as well as in health. To educate the people to a practical knowledge of this fact, together with a proper conception of hygienic management, means a higher standard of health and a lower death-rate. It certainly needs little argument to convince any one that that child is in the best condition to ward off disease, and to successfully cope with it when once attacked, who is supplied with good, wholesome, easily digested food. Nerve force and muscular energy can be preserved in no surer and better way than in the manner just indicated. Add to this the other important elements, viz., good clothing and proper ventilation, and we place these little people in the best possible condition for reaching mature years.

In many weak, puny children who look as if suffering from some constitutional dyscrasia, oftentimes this process of superfeeding will work wonders in a short time. As an illustration I cite the following case, brought me from a distant town :

Bertha C—, 3 years of age, born of apparently healthy parents, but from birth was frail and delicate. When I first saw her, she was pale and emaciated, muscles exceedingly lax and flabby, tonsils very large, Schneiderian membrane inflamed and thickened with an unhealthy secretion, on account of which, and the enlarged tonsils, respiration was difficult, and her

nights were restless and fretful. She had no cough, and an examination of the lungs showed them to be normal in every way. However, she was failing rapidly, and her parents were intensely solicitous. The Schneiderian membrane was to be kept free from secretions with an antiseptic solution, and she was ordered all the good, rich milk she could hold, peptonized from time to time as the case demanded, in conjunction with Phillips' codliver oil, three times a day, in suitable doses, and in addition, Reed & Cernick's beef peptonoids, once in four hours. She was to have salt-water baths, the muscles being well but gently kneaded meanwhile, and the utmost freedom of the lawn; due attention being paid to the organs of excretion, thus favoring, as far as possible, the proper assimilation of the food taken. Her progress was marvellous. She gained rapidly in weight, the "snuffles" disappeared, the tonsils decreased in size, her sleep was restful, and she was rapidly assuming the playfulness and vigor that should characterize one of her age. In many cases of this character anointing the body with codliver oil, plain or peptonized, will be of much service. This method was first recommended by Taylor, of London, and there can be no doubt that the skin possesses absorptive powers by which the tissues can be nourished.

It is not alone in cases of this character that this process of enforced feeding is beneficial. In the acute fevers of a serious character, a generous diet, administered in proper quantity and at regular intervals, is often of as much or more benefit than the medicine itself. The tissues are rapidly oxidized, and food must be supplied to take the place of that

consumed. The dictum of our medical grandfathers, that they "fed a cold and starved a fever," is now only remembered as one of the vagaries of the past, and the physician who first "fed fevers" was a benefactor to his race. Often, however, the stomach is not in a condition to digest sufficient nutriment to supply this waste. The action of the peptic glands, while not entirely suspended, is impaired, and a less active gastric juice is secreted. This is probably true of all acute fevers. We must then have recourse to peptonizing or predigesting the food, thus making it more easily digested and assimilated. Fortunately this has been greatly simplified and improved within recent years. The former can be done by taking, say a pint of milk, previously warmed to the temperature of 100°, and adding to this a tablespoonful of Park, Davis & Co.'s liquid pancreatic, and twenty grains of bicarbonate of soda, dissolved in a small amount of water. This will be ready for use as soon as a slight bitter taste is produced, but should be prepared fresh for each meal; if it is not, it should at once be placed on ice for its proper preservation. If the slight bitterness is objected to on the part of the patient, the digestion should not proceed so far, but should be stopped by rapidly cooling. In cases where good milk cannot be secured, recourse may be had to any of the standard "prepared foods" to be found on the market. By far the larger part of the milk sold in our larger cities, and small ones, too, for that matter, is positively vile. The song learned in childhood's days, "Yes, we will gather at the river," seems to cling to the average dairyman with wonder-

ful tenacity; add to this adulteration the constant churning to which it is subjected, by being carted through the streets, and much of it is in a state of fermentation and decomposition before it reaches the child. More particularly is this true during the summer months. As a result of this fermentation various poisonous alkalis are developed in the milk. To prevent or lessen this, the milkman's inventive genius has suggested the addition of salicylic acid, and thus, one after another abnormal ingredient is found, until it bears a striking resemblance to the witch's chaldron. It is in these cases that the "infant foods" referred to are a boon to the little sufferer, and many a chubby face owes its existence to some of the substitutes mentioned. But where one is sure of the purity and freshness of the milk used, the method of predigesting previously mentioned is safe and reliable, and should always be resorted to.

Cases will be met in which cod-liver oil would be indicated, and be of service, but owing to the fact that the stomach will at times reject it, disguise it as we may, and at others set up a diarrhœa which will counteract the otherwise good effects of the oil, we cannot use it. In these cases we can have recourse to the beef peptonoids, beef-meals and beef-cocoas, with the most happy and gratifying results; they are pleasant to the taste, easily digested and assimilated.

In diphtheria, scarlet fever and other diseases of a kindred character, to which child-life is heir, one of the chief dangers is death from exhaustion or heart failure. There can be no better way to avoid this than by an intelligent supervision of the

child's food : to see that it is *suitably prepared, given in proper amount and at regular intervals*. These are all matters of vital importance, and he who neglects or ignores them, fails to make use of potent factors in combating disease. If it be true that death overtakes its victim when the body loses forty per cent. of its normal standard of weight, the wise physician will jealously guard every avenue against this possible loss. In those cases in which the stomach absolutely rejects all food, the rectum may be made use of for the introduction of aliment into the system. Patients can be well nourished for days in this manner. The bowel should be well washed out and the food completely peptonized before its introduction. The rectum possesses remarkable absorptive power, and with care can be made the medium through which much food can be taken up.

Alcohol in some form will be of benefit at times and within certain limits. Liebig long ago laid down the proposition that it is consumed by oxidation, and stood next to fat as a respiratory food or stimulant. Pavy maintains that while some of it may escape from the system unchanged the major portion of it is in some way appropriated and is beneficial. Lallemand, Perrine and Duroy are not so firm in this belief. Few observers claim that more than an ounce and a half of alcohol can be taken in twenty-four hours without appearing in the blood and tissues unchanged. If this be true a much greater quantity than this will be hurtful rather than otherwise. The fact remains, however, and must in

truth be said that the larger majority of clinical teachers and writers give their unqualified indorsement of its use and benefit. In the diseases peculiar to children, and in those cases in which it is clearly indicated, such as the malignant forms of scarlet fever and diphtheria, wine and brandy in some form can be used with beneficial results. Of all forms of alcoholic stimulants, brandy doubtless stands at the head of the list in public and professional favor. Diluted and iced, its range of application is very wide. Within recent years there have been produced in our own country wine and brandy of superior purity and excellence, so that we no longer have to depend on the foreign article. They have a richness and a delicacy of taste and aroma that make them all that can be desired. I am satisfied that if greater attention were paid to the proper nourishment of children during sickness, together with better personal hygiene, many lives that are annually sacrificed would be saved. It is true, no hard and fast rules can be laid down for the guidance of individual cases, and such has not been attempted in this article. The peculiarities of the individual case must be studied, the type of the disease to be treated, all must have due weight and prominence. Such being true, as has just been said, no routine plan of diet can be formulated, but the foregoing embody the principles that should govern us. As auxiliaries may be mentioned absolute quietude and a proper amount of sleep, in order that the disturbed brain and nervous and muscular systems may be placed in the best possible condition for regaining their normal powers.

ABSTRACTS FROM CURRENT LITERATURE.

A Method of Accelerating Desquamation, and therefore of Shortening the Infective Period, in Scarlet Fever.

Jamieson—The Lancet, September 12, 1891.

WHATEVER influence the early throat symptoms may exert in communicating scarlet fever, it is universally admitted that the main danger of imparting the disease to others depends on the diffusion of the desquamating flakes which separate from the surface of the body during convalescence.

For the purpose of limiting the spread of the disease, mild measures of disinfection, repeated at frequent intervals, prior to, during and until absolute completion of desquamation, should be employed. Carbolic acid in the proportion of 3 per cent., in ointment or oil, constitutes the most reliable agent. With this, however, should be combined daily ablution with soap and warm water, so as to remove as rapidly and as completely as possible the dry epidermic particles as soon as they become loose, the carbolized oil or ointment being rubbed on the surface after it is dried. The well-known action of resorcin in causing the outer layers of the epidermis to separate without injury to the deeper ones suggested to the author the advisability of employing this drug to accelerate desquamation, and thus lessen the period during which infection is likely to take place. Applied as an ointment it failed to produce the desired effect in scarlet fever. The chemical difficulties of incorporating resorcin with ordinary hard or soft soap finally led Eichhoff to prepare a soap made chemically acid by the ad-

dition of salicylic acid, in which a moderate amount of resorcin, quite sufficient for the purpose, could be combined with it. A 3 per cent. resorcin salicylic superfatted soap is now prepared by Beiersdorf, of Hamburg, and by Muhlen, of Cologne. When this soap is used to wash cases of scarlet fever, warm water being always employed, from the commencement to the close of desquamation, a notable diminution of the period occupied by "peeling" is observed. From the consideration of a large number of unselected cases the conclusion has been arrived at that, while the commencement of desquamation may be as early as the fourth day of the disease, or may, in exceptional instances, be delayed as late even as the sixteenth, the average day on which it is first visible is the ninth. Again, the author determined that from the onset of the disease till the completion of desquamation in sixty-two unselected cases the average was 55.5 days, no treatment having been employed to interfere with the natural process. But when washing with the resorcin salicylic soap was begun as soon as signs of desquamation could be noticed, or shortly before, the desquamation was entirely completed in 40.26 days. There is thus a gain on the average of more than a fortnight. In all cases it was found advantageous, after washing with the soap and drying the body, to smear on a small quantity of some

bland oil, such as olive, almond or purified whale oil. Whereas, on the average, a patient in ordinary circumstances must remain a species of social pariah till the end of two months, when desquamation may be presumed

to be finished, if washing with this soap be steadily carried out in the manner suggested, he may safely be dismissed from hospital, or permitted to associate with his friends at the termination of six weeks.

Treatment of Convulsions in Children.

La Gazette Médicale de Montréal, March, 1891.

IN the treatment of convulsions DECROIZILLES (*L'Union Médicale*) recommends that the child be at once taken to a well-ventilated room, and that the clothing be removed in order to discover any points of irritation to the skin. A lukewarm bath, either with or without the addition of mustard, should next be given. The head should be kept cool by means of cold applications, or even by a stream of cold water kept constantly running upon the fontanelles. In Germany and Switzerland convulsions produced by hyperpyrexia are treated by plunging the child at once into a cold bath. As the irritation may be due to the digestive tract the fauces should be titillated or an emetic administered. If the stomach be tense it is advisable to use a purgative, 10 to 20 cgrm. ($1\frac{1}{2}$ to 3 grs.) of calomel, or 5 to 15 grammes (lxxx to \bar{f} ss) of castor oil, or 8 to 16 grammes (\bar{f} 3ij to \bar{f} 7ss) of manna suspended in milk. If the child has given passage to a worm an immediate vermifuge should be administered. If there be cerebral hyperæmia the application of several leeches behind the ears or to the thighs or the tibio-tarsal region is recommended. In vigorous children venesection, either from the arm or from the saphenous vein, can at times be employed. Warm cataplasms, prepared with mustard, can be applied to the lower limbs. The carotid ar-

teries, following the precautions laid down by Trousseau, may be compressed with care. Inhalations of chloroform are capable of giving good results, but they are only transient, and their repetition is not without danger. When the duration of the convulsion is prolonged, 5 to 40 cgrms. ($\frac{3}{4}$ to 6 grs.) of oxide of zinc, with equal parts of henbane, may be given. The bromides, associated with chloral, give especially good results. The dose of the bromide should be $\frac{1}{2}$ to 1 gramme ($7\frac{1}{2}$ to 15 grs.) in very young children, 2 to 4 grammes (3ss to 3i) in older children, and 4 to 6 grammes (3i to 3iss) in those approaching convalescence. Chloral should be administered in 5 cgrms. (gr. $\frac{3}{4}$) in the newborn baby, 15 to 20 cgrms. ($2\frac{1}{4}$ to 3 grs.) in the nursing baby, 20 to 30 cgrms. (3 to $4\frac{1}{2}$ grs.) below two years, and 40 to 80 cgrms. (6 to 12 grs.) in children from 7 to 13. The administration of chloral should be promptly suspended and renewed if there be any necessity. After the attack the child should have complete rest; and tonics, with the prolonged use of the bromides, cold affusions to the head, with baths and strict hygienic alimentation, should be ordered. It is wise, from time to time, to advise that the child be given small doses of calomel, valerian and oxide of zinc.

Personal Note.

DR. JOHN M. KEATING has concluded to remain at Colorado Springs and resume his practice, limiting himself to the diseases of women, both medical and surgical, and consultation practice in diseases of children.

BOOK REVIEW.

MINOR SURGERY AND BANDAGING, INCLUDING THE TREATMENT OF FRACTURES AND DISLOCATIONS, TRACHEOTOMY, INTUBATION OF THE LARYNX, LIGATIONS OF ARTERIES AND AMPUTATIONS. By Henry R. Wharton, M.D. With 403 illustrations, pp. 497. Philadelphia: Lea Brothers & Co., 1891.

The various bandages, surgical dressings and minor surgical procedures which are employed at the present time are well described and illustrated in this work. The illus-

trations of the various bandages are photographs from the living model, and therefore afford a valuable guide for students. The technique of the preparation and application of antiseptic dressings is fully described. Reliable advice for many surgical emergencies is given.

Dr. Wharton has prepared a book which will certainly be useful to students and one that will also be of service to those in general practice who are called upon to do minor surgical work.

Pamphlets Received.

Typical Uterus-Bicornis: Living Seven-Months' Child Expelled from Left Horn.—Laparotomy for Parovarian Cyst. Uterus-Bicornis then Discovered. Recovery. By George Wiley Broome, M.D., St. Louis, Mo.

Transactions of the Thirty-fourth Annual Session of the Medical Association of the State of Missouri, held at Excelsior Springs, Mo., May 19, 1891.

A Clinical Report on Intravenous Saline Infusion in the Wards of the

New Orleans Charity Hospital, from June, 1888, to June, 1891. By Rudolph Matas, M.D., Visiting Surgeon.

Heat-Stroke (Thermic Fever) in Infants. By H. Illoway, M.D., Lecturer on Diseases of Children, Cincinnati College of Medicine and Surgery.

Intoxications par le Sublimé Corrosif chez les Femmes en Couches. Avec trois planches en couleur. Par le Docteur Richard Sebillotte.

Pædiatric Therapeutics.

DIPHTHERIA.

Nedzwiecki, of Serdobsck, highly recommends the following formula:

R. Aquæ calcis, $\overline{3}$ vi.
Acidi salicylici, $\overline{5}$ i. M.

Sig. To shake well before using. A teaspoonful (to a child of 1 year), or a dessert-spoonful (to children of from 2 to 10), or a tablespoonful (to children above 10, and adults), every hour, day and night; later on, as the improvement advances, every two, and then three hours; after a complete disappearance of pseudo-membrane, three times daily, to continue for several days.

As a rule, all urgent symptoms vanish on the second or third day of the treatment; the throat becomes quite clean within a week. During the last twelve years the author resorted to the method in forty cases of diphtheria, and lost only one patient. The latter succumbed about the end of the second week of the disease, the lethal issue being caused by paralysis of the laryngeal muscles, with a consecutive mechanical pneumonia (*Schluckpneumonie* of German authors). The writer draws attention to an extreme simplicity of the method and, on the other hand, to an imperative necessity of shaking well the mixture before each dose. Salicylic acid must be present therein in the state of suspension (which detail should be mentioned by the practitioner in his prescription, since many chemists add bichlorate of soda to dissolve the acid).—*Saratovsky Sanitarnyi Obozr.*, Nos. 11 and 12, 1891.

Netetzky says that his twenty-two years' practice has convinced him that the best treatment of faucial diphtheria consists in an energetic use of permanganate of potassium. The drug should be administered in the shape of paintings and gargle. The following strong solution should be employed:

R. Potassii permanganatis, $\overline{3}$ i.
Aquæ destillatæ, $\overline{3}$ i. M.

Sig.—Paint affected surface every three hours.

For gargling, which is to be repeated as often, a teaspoonful of the same solution should be mixed with a tumblerful of boiled water. In those cases in which the child is unable to

gargle, the following mixture should be given internally:

R. Solutionis hydrogenis superoxydati, 2 per cent., f $\overline{3}$ ij.
Glycerinæ, $\overline{5}$ ij. M.

Sig.—A teaspoonful every two hours.—*Med. and Surg. Reporter*, Aug. 8, 1891.

CROUP.

Blackwood recommends the following:

R. Syr. garlic, $\overline{3}$ j.
Tr. lobelia, $\overline{5}$ ij. M.

Sig.—Give from twenty drops to a teaspoonful of the syrup, adding from five to twenty drops of the tincture, according to age.

This is a favorite with Prof. Garretson:

R. Syr. prunus virg., $\overline{3}$ ij.
Syr. senega, $\overline{5}$ j.
Fl ext. jaborandi, $\overline{5}$ ij. M.

Sig.—A teaspoonful every two or three hours.

As an emetic he finds alum and molasses the best; it should be made thick and given in one or two teaspoonfuls, followed by cold water.—*Med. Summary*.

WHOOING-COUGH.

R. Pulv. belladon. root, gr. $\frac{1}{8}$.
Dover's powder, gr. $\frac{1}{2}$.
Sublimed sulphur, gr. iv.
White sugar, gr. x. M.

Sig.—Take in one dose from two to ten times a day, according to age of patient and effect produced.—*The American Doctor*, April, 1891.

RANULA.

Briz, of the General Hospital, Madrid, mentions a case of one of these tumors, as large as a hen's egg, which he cured in a very simple way. The contents of the tumor were too thick to be aspirated with a hypodermic syringe, and fifteen minims of the following solution were injected twice, at an interval of three days, and effected a permanent cure:

R. Potassii iodidi, gr. vi.
Tinct. iodini,
Aquæ destil., āā f $\overline{3}$ i. M.
—*La Andalucia Medica*.

RINGWORM.

R. Cupri oleate, $\overline{3}$ ss.
Adipis benzoati, $\overline{3}$ i. M.
Fiat unguent. Sig.—Use locally.—*Shoe-maker*.

ANNALS

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No. 3.

ORIGINAL COMMUNICATIONS.

Doctor, Are You a "Knob-on-a-Log?"

BY GEO. S. LIGGETT, M.D.

OSWEGO, Kan., Nov. 10, 1891.

Editor of ANNALS OF GYNÆCOLOGY AND PÆDIATRY, Philadelphia, Pa.

Dear Sir: The following article was read by its author, Dr. George S. Liggett, at a meeting of the Labette County (Kansas) Medical Society, on November 5, 1891. It was referred to the publication committee, and as it was in answer to an expression found in the ANNALS, they determined to offer it to you for publication.

I am, very respectfully,

G. S. LIGGETT, *Secretary.*

IN the August number of the ANNALS OF GYNÆCOLOGY of this year, in an article entitled "A Review of a Series of Fifty Abdominal Sections," you will find the above phrase, "knob-on-a-log." It is true, it is in a private letter written to the writer of the article, but, it having been published, it becomes public property. Now, in behalf of the great body of earnest medical men all over this broad land of ours, I protest against the general application of the phrase.

Given two men with equal ability and start them out in life together; place one in a country town, where the surgery of a year will be confined to the opening of furuncles, and possibly a fracture, where abdominal surgery is never seen; place the other

in a large city, where he will see and work with eight or ten surgical cases in one day, and which, I pray you, will become the prominent man? The memory of the dissecting-room, the teaching of the professor, and the ability to become a surgeon will be gone in a few years with one man, while the other will expand, his faculties will grow, and he will become a leader and a teacher among us. We are proud of these advanced thinkers, we read their articles with pleasure, we consult with, and send our puzzling cases to them, and we follow them as best we can, surroundings and circumstances permitting.

Let us notice a few of the circumstances that surround us. They are of a nature of which the above-men-

tioned successful man never dreamed. All those who consult him in his hospital, in his clinic, or in his private office, go there expecting to be operated upon. The jealousies and slanders regarding HIM have no effect upon his reputation as a surgeon, or upon his living. In a country place, an unsuccessful capital operation will be remembered against the operator for years, and it will crop out unexpectedly in many ways. Even the assistants and other physicians present have to bear their share of the blame. We are surrounded by men, practising medicine, who are so well posted that they never need a post-mortem to decide a puzzling case! We are thrown among men who employ women to visit the patients of other physicians to create trouble. Time and again we have treated cases where one could feel that the very air of the room was filled with doubt and suspicion, but we hang on, the case dies, and we are months recovering from the effects of it. Years ago, the doctor in an out-of-the-way place was a self-educated man. Now the college-bred man has taken his place, and it would be difficult to find a physician so remote who has not a college course, and on his office-table you will find the leading medical journals of the day.

• The shafts of ignorance and prejudice among the medical men are sharp, poisonous. The intelligent man feels them a thousand times more keenly than the ignorant one, and when he reads in his medical journal such expressions as "knob-on-a-log," "man-afraid-of-his-duty," and "do-nothing-nincompoop," his kindly feelings toward those men, perhaps whom he has followed with pride and profit, is lessened; he feels the shaft more sharply

than he feels the slanders nearer home.

The practice of medicine is peculiar. Ladies, refined and delicate, will sometimes prefer a man to attend them in confinement who carries about him continually the odor of a strong pipe, who perhaps drinks, or is saturated with drugs, who employs his time at manual labor on a farm, and who has not opened a medical journal for years, to the man who has prepared himself for such work by a life of study. In other walks of life the "bubble reputation" is lost by a single slip apparently, but a physician can be in the "gutter" and find those who will employ him. While the standard of medical education has advanced, human nature has not, and the knavish man carries with him into our profession his inherent meanness, using trickery to advance his interests, well knowing that people like to be humbugged. The bigger the humbug, the more the dear people seem to be pleased. Notice the successful street doctors. Many of them have had a good medical college education, but knowing that the almighty dollar flows more easily into their pockets by such methods, they adopt them, taking in the money, while the honest physician starves at home.

A successful quack and an impecunious, educated physician were talking together one day. Said the latter: "Tell me how it is that you are getting richer and I am getting poorer? you know you are a quack." The former said nothing at first, but called his questioner's attention to the passers-by, who were personally known to both, and the decision arrived at was that eight-tenths of them would rather be humbugged than not; then the

answer came: "That is it; I get the fools, and you get the intelligent people."

Is it any wonder, then, that we follow the text-books that were good enough a few years ago? Is it any wonder, then, that we seem to let "nature take its course," when we know and have experienced the fact that there are people ready, watching for just such a chance to work us harm?

Let me cite a case in point, where the "good neighbors" wanted to run the case: On June 8, 1891, I was consulted by Mrs. B. for uterine trouble. She had been married several years, had had one child, a history of several miscarriages, and a condition that I think was membranous dysmenorrhœa. She was very fleshy. She gave a history of prolapsus. She had been "flooding" five weeks. The discharge was very offensive. She strenuously denied pregnancy. Examination showed displacement, engorgement, erosions and a small lateral laceration of the os. I noticed that at each examination, there was a very tender spot in the cul-de-sac of Douglas, but I thought it was due to the great degree of inflammation in the retroverted fundus. I treated the case with douches, tampons and with other local medication for about a week. She would have terrible spells of cramping and tenesmus in the rectum that seemed to produce a condition of prostration. The conditions became worse, the tenderness increased behind the womb, and I finally concluded that there was pus forming, as I could easily feel the swelling in that region. The family wanted a consultation, so it was held; and the consulting physician decided that there was a pelvic abscess formed,

and that it had broken into the rectum. I agreed to it all but to the fact of its having begun to discharge; but as there was nothing to do but to wait, I did so for about a week longer, when the pain became so great, and the evidence of blood-poisoning was so marked, that I could wait no longer; so I took Dr. Draper up one evening, and, with the use of ether, we aspirated, and found that it was a case of pelvic hæmatocele, and that it was then in a very offensive condition. I waited twenty-four hours more, when I took Dr. Draper back, and we opened the cavity through the vagina. The matter had burrowed behind the posterior wall and to within an inch and a half of the vulva, but the surrounding tissues were so infiltrated that it was difficult at first to reach the cavity. The contents were broken-down blood-clot, and in a high state of putrefaction. The clot seemed to fill the pelvis, pushing the uterus behind the symphysis. I washed out the cavity two or three times a day for ten days. On July 7 I ceased the washing, as the fever was all gone, and the danger seemed over. On July 11 there was a fresh hæmorrhage, but the discharge was free. On the 12th and 13th she had severe chills and more bleeding, but the fever did not rise to more than 100°, as the washing was begun at once, and the cavity kept open. I think that part of the blood was menstrual, but there was surely a bleeding point in the cavity.

Now, according to the advanced thinkers of the day I was a "knob-on-a-log." I would have been justified on two occasions in insisting on a laparotomy—first, when I knew that there was a large amount of decaying matter in the pelvic space, and then again at the close of the case, when

there was every evidence of there being a bleeding point away out of reach. But the surroundings were such it was deemed best to treat the case according to the text-books. The result was good.

I examined the case again on the 28th of September, and was surprised at the condition. I expected to find adhesions, and everything out of shape. All evidence of the great inflammation was gone.

In conclusion, I will say that I believe that the case was one of abortion, and that the woman produced it. There may have been an extrauterine pregnancy, or at least a portion of it may have been outside. Be that as it may, the case was a rare one, and a very instructive one to me. I may have been afraid of my duty when I did not insist upon an operation, but I feel satisfied with the termination of the case.

A Case of Hypertrophy of Skin of Vulva and Neighboring Parts.

BY J. M. BALDY, M.D.,
PHILADELPHIA.

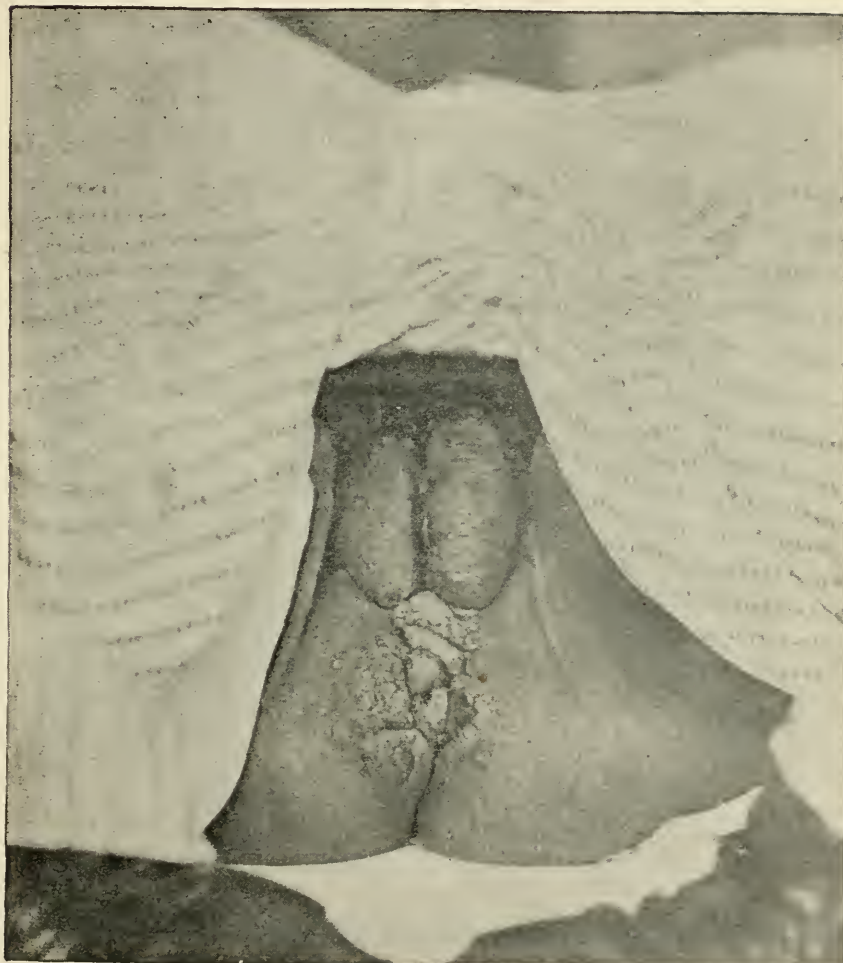
[With Plate.]

Mamie J., 35 years old, colored, married five years, no children or miscarriages. Ten years ago a small nodule, like a tit, developed in the region of the anus. These small growths kept recurring frequently, and she was in the habit of twisting them off with her fingers. Finally they began to appear more as sessile growths and larger. The disease progressed until she was in her present condition. Both labia majora are greatly hypertrophied; the labia minora are only slightly involved. The hood of the clitoris is much enlarged and thickened. Independent nodules, as large as a bean, are scattered over the mons veneris. Irregular masses of hypertrophy extend over the whole perinæum, and completely surround the anus, spreading out on the gluteal tissues to a considerable extent. There is a constant

slimy discharge from the anus, although there is fair control over the external sphincter muscle. There is a negative history of syphilis, but that is hardly to be considered reliable. The family history is entirely free from similar trouble. The girl has been taking potassium iodide and mercurials for a month or more, with no result. She bears both drugs well, and in large doses. It is intended to continue this treatment for some months longer, on the supposition that the disease is specific. In any event it is doubtful whether the hypertrophied condition will disappear. The whole growth covers such an extent of tissue that a surgical procedure holds out no attractions. The only discomfort from the growth is the resultant bowel condition, and an operation would hardly rectify this.

PLATE I.

FIG. 1.



HYPERTROPHY OF SKIN OF VULVA AND NEIGHBORING PARTS.

[See Page 132.]

A Case of Uterine Abscess Resulting from Induced Abortion.

BY SIGOURNEY T. COWLES,
OF WESTFIELD, MASS.

A CHINESE woman, aged 32 years, of the large-footed class, a field-worker, presented herself at the Dispensary of the *Foochow Hospital for Women and Children*, May 31, 1883. She complained of gastric disturbance and severe pain in the lower portion of the abdomen, of a lancinating character, extending into femoral and lumbar regions.

On the 27th of April, working in the field, she had been attacked with a chill, and so sharp a pain that she could not walk, and was assisted to the house by her fellow-workwomen. That evening she discovered a swelling of the abdomen, which had daily increased, and she had been unable to work. Ill-health dated from August, 1881, when, about five months pregnant (pleading extreme poverty, a husband's desertion and urgent advice of relatives), she engaged a native midwife to induce abortion. An instrument was used which caused her much pain, and twenty-four hours later the fœtus was expelled. She had never been well since.

Examination revealed a prominent round tumor in the hypogastric region, extending four inches above pubis, exquisitely sensitive to touch; a hard mass in left inguinal region, painful on pressure. Tenderness was localized over these areas.

Temperature, 99.4°.

Before an examination per vaginam, a carbolic-acid injection was given to correct the extreme fetor.

The speculum introduced, a whitish mass, of a finger's breadth, was seen within the os uteri, having the appearance of a slough. When seized with the forceps the gentlest traction withdrew it entire. To the whitish mass was attached a piece of wood, four inches long, the diameter of a quill, smoothly rounded, pointed at the farther extremity, like a sharpened lead pencil. That which had appeared like a slough in the cervical canal, was the blunt end of the stick, closely wrapped with cotton cloth.

This constituted the "instrument" which the native midwife had used, and it had remained *in situ* not less than twenty-one months. The patient was taken into the hospital. Diagnosis: Abscess in parenchyma of uterus. Rest, tonic and nutritious regimen, emollient and antiseptic applications were directed.

Temperature record:

June 1,	99.4°.
" 2,	100.1°.
" 3,	100.3°.
" 4,	100.2°.
" 5,	102.1°.

Symptoms indicated adhesion of uterus to abdominal parietes.

On June 5 a trocar was introduced into the tumor through the abdominal wall, about three inches above the pubis, and to the left of the median line, and a half pint or more of pus was discharged through the canula. Pure iodoform was then freely applied. The discharge continued,

gradually lessening from day to day, and improvement in the general symptoms was daily marked.

On June 6, temperature reached 100.1°, and during the next nine days the average morning temperature was 97.5°, and the afternoon 98.9°.

On June 15, patient insisted on re-

turning to her home, imagining herself well enough, although the discharge had not entirely ceased.

She probably returned to hard outdoor work. Subsequently, word was received that she died in October; the cause of death not ascertained.

SOCIETY PROCEEDINGS.

Transactions of American Association of Obstetricians and Gynæcologists.

[Concluded from page 98.]

Dr. LEWIS S. McMURTRY, of Louisville, Ky., read a paper on *Intrauterine Irrigation after Labor*, in which he said that the relation of micro-organisms to septic poisoning during the lying-in state has been generally acknowledged by the profession. The greatest danger to which a lying-in woman is exposed has been removed from maternity hospitals by the application of aseptic precautions, while in private practice puerperal fever is very common, and the lesser grades of septic inflammation following labor form the first stage of a large proportion of the cases of intrapelvic inflammation and tubo-ovarian disease met in gynæcological practice.

While very little attention has been given to the proper treatment of this condition in its first stages, the prevention of puerperal sepsis has been reduced to a rule. The process of poisoning may be rapid and intense, or gradual and insidious. When the first symptoms appear, the treatment should be prompt. Modern text-books ignore the treatment at the first stage, although giving ex-

plicit rules for prophylaxis. The usual treatment consists of imperfectly administered vaginal douches, antipyretics and opium. The result is often fatal, never satisfactory.

By some writers intrauterine irrigation is advised for the prevention of the septic process, in cases where the hand and instruments have been passed into the uterus. In many cases this procedure is adopted too late. The danger of the injected fluid passing into the tubes and reaching the peritonæum is believed to be theoretical rather than practical.

During the earliest stages of sepsis is the time for resorting to intrauterine irrigation after labor, when there have been extensive lacerations of the parts or manipulations during labor, or neglect of precautions against sepsis; fever, on the third or fourth day, with fetid discharge, should at once indicate the necessity for irrigation, which should be performed by a surgeon in a surgical manner, at intervals of from two to six hours. The uterus must be emp-

PLATE II.

FIG. 2.



HYPERTROPHY OF SKIN OF VULVA AND NEIGHBORING PARTS.

[See Page 132.]

tied of all decomposing matter. The patient should be placed in Sims's position, the perineum retracted, a long glass drainage tube, attached to a fountain syringe, introduced into the uterus, and water injected which has been previously boiled, and is still quite warm; antiseptic fluids are not necessary. The principle of the treatment is that of flushing and drainage, the effect of which has been so notably demonstrated in similar conditions in pelvic surgery.

DISCUSSION.

Dr. W. W. POTTER, Buffalo: It seems to me that the keynote of this whole question of intrauterine irrigation after labor was sounded when the writer said that the time of commencement of the treatment was the time and place where it became essential; that is, at the initial symptoms of infection. I have no doubt that this method would result in the saving of life and in the prevention of prolonged sickness.

Dr. E. E. MONTGOMERY, Philadelphia: We are certainly under great obligations to Dr. McMurtry for the excellent presentation of this subject. It is one of vital interest, for upon the meeting and subduing of the germs at this early stage are dependent the future comfort, health and possibly life of the individual. I fully indorse what he has said as to the importance of early intrauterine irrigation, where there is the least indication at all of the presence of septic infection. I would even go further, and say that in every case where the infection is marked, in which its presence is indicated by the character and severity of the symptoms, I would advocate, in addition to irriga-

tion, the use of the curette, and the introduction of a twist of gauze carried up to the fundus, to be sure that the subsequent drainage was perfect and complete.

Dr. GEORGE H. ROHÉ, Baltimore: Any one who has ever seen the interior of the uterus of a woman who has died of septic infection, after delivery, will appreciate the importance of more than superficial measures—not an injection now and then, but also the use of some chemical disinfection which will inhibit the rapid multiplication of the germs.

Dr. J. H. KELLOGG, Battle Creek: I want to add my testimony to the value of irrigation in the cases described.

Dr. J. H. CARSTENS, Detroit: I perfectly agree with the paper of Dr. McMurtry. I think it has been well settled that ordinary cases had better be left alone; but where symptoms develop, it is well to start irrigation early. Irrigations do not always reduce the temperature, however, especially in cases in which no debris is found in the uterus. These cases depend on rekindling of pre-existent tubal disease, and require laparotomy.

Dr. E. W. CUSHING, Boston: I would wish, in confirmation of what the last speaker has said, to briefly report a case of what apparently must have been tubal infection. Some four years ago a young woman was married, and there is little doubt that she received infection from her husband. Within a week after marriage she was taken with violent symptoms, and for three months suffered terribly. I removed one tube full of pus. The other tube, although there was a little adhesion, seemed in good order, and I left it, hoping she might have

children. She did have a child nearly three years afterward, and within a week after delivery was seized with violent puerperal symptoms. There was no reason to suppose anything was omitted in her care. Irrigation of the uterus was used, and was of no use. I performed laparotomy. I found a suppurating mass in the region of the ovary, which I removed with the pus-tube on that side. It seems to me that there had been some latent trouble in the tube which was not sufficient to prevent impregnation, but which was sufficient to cause the explosion soon after the delivery. In another similar case I performed laparotomy, three weeks after labor, for puerperal fever with chills, and temperature varying from 102° to 105° . Irrigation had been used faithfully, with no advantage. The left tube, and the left cornu of the uterus itself, contained pus. It was very difficult to determine what was tube and what was uterus. I was able to shell out this tube and scrape out the cornu of the uterus. The woman made a good recovery, and is entirely well.

I am glad this point has been brought out in the discussion, that however valuable early irrigation may be, in which I have every confidence, there are some cases where irrigation does not have the desired effect; in which I do not know of any one who would agree more than Dr. McMurtry that it is necessary to perform laparotomy.

Dr. A. H. WRIGHT, Toronto: I can say that I entirely indorse the statements expressed in the paper. I do not know of anything in the art of obstetrics that has given me more anxious thought than this question of

antisepsis. It is my habit to use the intrauterine irrigation very seldom. However, when the necessity arises, I certainly do not scruple, at once, to irrigate the interior of the uterus. We must not expect too much from irrigation. There are three classes of cases: there is a class of cases where the poison is slow, and by means of irrigation, combined sometimes with the curette, we can accomplish a great deal. Another class, the dose of poison is so great, the nerve-centres are so affected, that no washing or anything else does any good. Another class, one of the most interesting, has been referred to; that is, where the poison has been there for a long time, probably for months. Then the irrigation, of course, may do some good, but do not expect too much of it.

Dr. J. F. W. ROSS, Toronto: I agree with Dr. McMurtry's paper in a good many points, but I must disagree with him when he says that he thinks ordinary water used as an injection is as good as some antiseptic solution. I am quite convinced that many of the cases of puerperal infection are due to suppuration caused by fibroid tumors. In those cases irrigation or any other method will not be efficacious.

Dr. J. H. KELLOGG, Battle Creek: There is another use for irrigation which has not been mentioned. The flaccid uterus, not contracting, offers the best opportunity for the development of microbes. In these cases the application of a hot douche, 140 degrees, causes the uterus to contract. I think very hot water is almost as efficient as a germicide. I have had constructed an instrument consisting of a metal end with a hard rubber extension. I have used with this a tem-

perature of 180 degrees, and have found that very effective in stopping hæmorrhage.

Dr. McMURTRY (closing the discussion): It was not the purpose of the paper to discuss the routine use of intrauterine irrigation after labor, or to deal with the prophylaxis of puerperal sepsis, but simply to emphasize the point that this very valuable method, which we can institute in the very initial stages of sepsis, is not generally appreciated by the great body of the profession. Cases of tubal disease belong to the class of cases where the disease was present before labor began. They may have been mechanically affected by the process of labor and the muscular contractions, so as to complicate the case, but I venture to state that those are not cases, properly called, of auto-infection. Moreover, the treatment of those cases by laparotomy, evacuation, removal of the disintegrating structures, drainage and irrigation, is but an application from above of the same principle of treatment my paper advocates from below. Those cases should be dealt with by laparotomy.

Dr. J. H. CARSTENS, Detroit: I would like to know what you would call those cases where the tube ruptures? The point I wanted to make in my remarks was this, that if your woman has puerperal fever, you have a perfect right to hold the physician or the nurse, or anybody who handled her, responsible with having contaminated her; that that is the case nine times out of ten. But there are rare cases where the physician was perfectly aseptic, but the patient had a pus-tube, and that ruptured, and she had puerperal fever. The common people do not know whether

there was one thing or the other. Those I call auto-infection, where the woman has carried it for some time and the labor completed it. The physician and nurse may be innocent, but it might be charged against the physician that he was not aseptic.

The other point I wanted to make was simply this: in those cases it is a diagnostic point that when we irrigate the uterine canal, when we have cases such as have just been recited, in this kind of cases, where the irrigation does not help, laparotomy is required, and the sooner it is done the better.

Dr. McMURTRY: I think the point was covered in my remarks entirely. I think the doctor wants to know about the case. I should say to explain it to the patient and family. Tubal disease may exist as a complication, but puerperal sepsis in such cases should not be called auto-infection.

M. B. WARD, M.D., Topeka, Kan., in his paper, entitled

THE REMOVAL OF THE UTERINE APPENDAGES,

stated that he had performed the second operation of this kind in that State, and reported briefly fifteen cases, of which his first, third and eleventh ended fatally. The reports of the cases were interesting and showed good work.

DISCUSSION.

Dr. PRICE was convinced that an early operation must be done in pelvic abscess, ovarian cystoma and uterine fibroid, and that hysterectomy should have no mortality if done early. Rich patients give worse results after operating than poor ones,

because the former delay longer and submit to all sorts of gynæcological tinkering.

Dr. E. W. CUSHING, of Boston, recognized that the bad cases are the ones which have been neglected and in which early operations would have resulted in a greater number of recoveries. He was satisfied that hysterectomy, as well as laparotomy, must be done early. He thought that there might be a difference in the virulence or tendency to suppuration of cases of salpingitis occurring in different cities.

Dr. M. PRICE thought that many of the delays were due to the cowardice of the surgeon.

Dr. J. PRICE said that gonorrhœa was the cause of the majority of pus cases.

Dr. WARD said that in the West it was hard to gain the consent of the patient and her friends to an early operation.

A CONSIDERATION OF EMMET'S LAST OPERATION FOR SO-CALLED LACERATION OF THE PERINÆUM OR PROLAP-SUS OF THE POSTERIOR WALL OF THE VAGINA, OR LOSS OF THE FASCIAL SUPPORT, OR MUSCULAR RELAXATION FROM TEARS:

By JOSEPH PRICE, M.D., Philadelphia, Pa., who reported having performed this operation over 600 times without a failure. He did not have faith in flap operations, and condemned the old puckering operations.

Dr. L. S. McMURTRY, Louisville, Ky., remarked that owing to a faulty method in denuding and suturing the parts in these cases the skin only is united, and the deeper divided tissues, muscles and fasciæ are not brought into coaptation.

W. H. WATHEN, M.D., Louisville, called attention to the necessity of regarding not only the condition of the skin and fourchette, but of the tissue above. He recommended splitting the tissues between the vagina and rectum in order to expose the ends of the divided muscles and fasciæ. He urged the necessity of the immediate repair of the lacerated perinæum. The subject was discussed by several other gentlemen, but it seemed generally agreed that words are inadequate to fully describe the Emmet operation, and that the best thing to do is to witness its performance by some one who understands it.

Dr. ROBERT T. MORRIS, of New York, read a paper on the

PREVENTIONS OF SECONDARY PERITONEAL ADHESIONS BY MEANS OF AN ARISTOL FILM.

Referring to the troublesome effects of secondary adhesions, he said that the method of smearing the surfaces of the torn adhesions with oil, or irrigating the abdominal cavity with saline solution, gives uncertain results. Having noticed that when aristol is dusted over a wound it forms a film with coagulated blood, he used it in four patients in whom extensive adhesions were separated during abdominal section. He waited until oozing had almost ceased and then sprinkled the fresh surfaces with aristol, waiting until it united with the lymph and then repeating the process, so that a film of lymph and aristol was formed over the region of adhesions. The abdomen was then closed. All the patients recovered and did not suffer from secondary adhesions. Dr. Morris then described a series of ex-

periments on rabbits which seemed to confirm his views.

THE ANNUAL ADDRESS

was read by the President, ADAM H. WRIGHT, M.D., of Toronto. It was principally devoted to a statement regarding the manner in which the society had been formed in order to fill the vacancy in the Congress of American Physicians which was left by the refusal of the American Gynæcological Society to join that body. When, however, the Association of Obstetricians and Gynæcologists had been formed, the American Gynæcological Society suddenly concluded to join the Congress and was admitted, the new association being kept out under a rule that all new applicants must have held two annual sessions and accompany their application with two volumes of transactions. Nevertheless, after the association had been in existence for three years and had forwarded its application for admission, accompanied by twelve sets of transactions, it was refused admission to the Congress. The speaker felt that the new association had not been handsomely treated, and the members of the association are understood to coincide with his views, and not unnaturally.

* A CASE OF CHOLECYSTOTOMY AND CHOLELITHOTRITY; DEATH FROM LA GRIFFE ON THE TWENTY-FIRST DAY:

By W. W. SEYMOUR, M.D., Troy. In this case a large number of small stones were removed through an incision into the gall-bladder, while a calculus in a common duct was crushed by forceps through the walls of the duct. It was not possible to reach the stone and extract it, and crushing was considered safer than

incision and suture of the duct. Death occurred on the twenty-first day. An autopsy showed that adhesions of the gall-bladder were perfect and that there were no evidences of inflammation or ecchymosis in or about any of the abdominal viscera. The reader's conclusions were as follows: First, in large, fat and flabby bellies, crushing is safer than excision, with its risks of imperfect suture; second, excision should be a method of election only when an exact suture is beyond question; third, if injury to the duct is suspected, a drainage tube should be employed, and, if necessary, the abdominal cavity protected by gauze tampons; fourth, in case of stones projecting into or overlying the duodenum, it may be incised and the stones, if projecting, broken up, or the duodenal portion incised and the stone crushed or delivered intact, as Dr. Charles McBurney has recently done with a stone as large as a pigeon's egg.

REPORT OF CASES OF CHOLECYSTOTOMY WITH SPECIAL REFERENCE TO THE TREATMENT OF CALCULUS LODGING IN THE COMMON DUCTS:

By A. VANDER VEER, M.D., Albany, N. Y. Three cases were reported where the writer had operated, two being successful; the specimens were shown. The following methods of operation were recommended:

First.—Dislocation of the calculus either into the duodenum or into the gall-bladder.

Second.—Choléolithotritry, either by crushing through the walls of the duct with padded forceps or fingers or from within, followed by removal through the gall-bladder or intestinal canal.

Third.—Breaking of the calculus

by the introduction of strong needles, through the walls of the duct and subsequent dislodgement.

Fourth.—Cholecystenterotomy, according to V. Winiwarter, or modifications of it, that is establishment of a new communication between the biliary ducts and the intestine.

Fifth.—Incision of the gall-duct and removal of the calculus, with subsequent suturing of the incision in the duct.

In spite of statements to the contrary, the writer is of the opinion that the gall-bladder and ducts can be safely sutured, as was done in his first case, which was successful. Moreover, it has been shown by various experimenters that the escape of bile into the abdominal cavity does not set up peritonitis, although, of course, such an accident should be guarded against by exact suture, drainage and tamponade of iodoform gauze.

The indications for the use of one or the other of the above procedures were then described, and the method for the incision in the common duct was given at length.

DISCUSSION.

Dr. ROBERT T. MORRIS, New York, recommended an abdominal incision and suturing the gall-bladder to the abdominal walls; then postponing further procedure for forty-eight hours, when, without danger of leakage, the gall-bladder could be incised, the stone removed, and the gall-bladder irrigated.

Dr. PILCHER, of Brooklyn, disapproved of dropping the gall-bladder into the abdomen after incision, removal of the stone and suturing of the bladder. Extirpation is even

more difficult and dangerous; opening of the common duct and removal of the stone can be done when the calculus can neither be dislodged nor crushed, but all these operations should be considered as exceptional, as in most cases it is preferable to bring the gall-bladder into the abdominal wound, open it and stitch it to the abdominal wall. Dr. Pilcher reported two successful cases.

Dr. J. H. KELLOGG, Battle Creek, Mich., reported three cases where, although the symptoms pointed strongly to the presence of gall-stones, none were found on operation. In the first case there were extensive adhesions between the stomach, liver and intestines, and these adhesions, by pressure on the gall-bladder, had caused the symptoms of gall-stones, which symptoms were entirely relieved by separation of the adhesions. The second case was quite similar. In the third case a tumor in the region of the gall-bladder was found in a man; fluid was removed by hypodermic syringe, which, on examination, did not respond to tests for bile, but showed the presence of cholesterine; abdominal incision was performed a few days later, when no tumor was found, but six quarts of bile were found free in the abdomen. The distended gall-bladder had apparently been ruptured by the puncture of the hypodermic needle. The abdomen was washed out and drained, but the patient died three days later without fever.

H. O. MARCY, M.D., of Boston, reported a successful case of removal of a stone weighing two ounces from the gall-bladder of a woman 60 years of age. The gall-bladder was first stitched to the abdominal wound by

continuous sutures, then it was opened, and the stone, which was too large for extraction through the abdominal wound, was crushed *in situ* and removed. Recovery.

FEMORAL AND VENTRAL HERNIA IN WOMEN :

By H. O. MARCY, M.D., Boston. The writer advocates the dissection of the hernial sac to its very base, which is sutured by the shoemaker's stitch and removed ; the inguinal ring is carefully closed by a similar stitch with a line of deep double continuous tendon sutures. The canal is united by sutures in layers, and the wound sealed by iodoform collodion, without drainage. Dr. Marcy referred to his use of the buried animal sutures for hernia as early as 1871, and his subsequent use of this suture for all operative wounds ; he called particular attention to the need of strict asepsis in this operation, and to the fact that when properly performed it is unattended by danger and is followed by cure. In cases of ventral hernia he dissects the sac down within the ring, splits the edges of the latter, and brings them together with three layers of strong tendon sutures ; the abdominal wall is united by a suture, in layers, of tendon, and the wound is sealed with iodoform collodion.

TRENDELENBERG'S POSTURE IN GYNÆCOLOGY :

By FLORIAN KRUG, M.D., of New York. The reader stated that the Trendelenberg's posture is the elevation of the patient's pelvis, so that the symphysis pubis forms the highest point, while the body is at an angle from the horizontal of from forty-five to sixty degrees. The advantage of this position in abdominal

surgery is that the contents of the abdominal cavity are drawn toward the diaphragm, and the true pelvis thus becomes free and of easy access. Protrusion of the intestines during laparotomy—a most trying and unpleasant occurrence when the patient is in horizontal position—is impossible in Trendelenberg's posture. The pelvic viscera are easily visible, as in an anatomical demonstration ; all operations on the same can be conducted under control of the eye ; the operator can see everything he is doing ; the ureters can be seen and easily avoided ; any bleeding point is at once recognized, and easily tied, even in the depth of the pelvis.

Dr. Krug compared the value of Trendelenberg's posture in abdominal surgery with that of Esmarch's bandage in operations on the limbs, and thinks that it will be considered as indispensable in gynæcology as Esmarch's bandage is necessary in general surgery. He said that he had never seen any disadvantage connected with this posture.

He gave a short historical sketch of the evolution of this posture, and proved that it deservedly bears Prof. Trendelenberg's name. Dr. Krug himself first introduced it on an extensive scale in America, he having done over 150 laparotomies in this posture.

He exhibited an apparatus devised by him for the application of Trendelenberg's posture. It consists of a galvanized cast-iron frame, which can be fastened to any kind of operating-table, or can be screwed on to an ordinary laundry-table in case of emergency. Joined to this is another frame covered with sail-cloth, on which straps for the patient's knees and ankles are provided. After the

abdominal incision has been made, the upper frame is raised to the desired angle and can be lowered again, whenever the operator sees an indication for the horizontal position. The advantages of this apparatus are, that it is portable, easily sterilized and cheap.

Dr. W. MEYER approved of the use of the Trendelenberg position, and called attention to the necessity of raising the pelvis sufficiently, so that air may enter through the abdominal incision, and the intestines recede toward the diaphragm, so that the operator can see bleeding points and tie deep vessels easily. The incision must be a long one, but this makes but little difference in the ultimate healing of the wound. This position is therefore most valuable, as it enables us to employ sight, and not merely to depend on touch.

Dr. CARSTENS had not used the position, and objected to the long incision as likely to favor hernia, and to the entrance of air into the abdominal cavity as apt to cause sepsis.

Dr. MEYER did not believe that wounds could be infected through the air, and

Dr. KRUG closed the discussion by stating that air might enter the peritoneal cavity in the horizontal posture. He had used Trendelenberg's position in over 150 operations and was sure that his results would compare favorably with those of any operator who used the horizontal position.

SUPPURATING CYST DEVELOPED FROM ADHERENT OVARIES, AFTER REPEATED ATTACKS OF INFLAMMATION. SECONDARY OPERATION FOR THE REMOVAL OF INTRALIGAMEN-TOUS CYST:

By RUFUS B. HALL, M.D., Cincinnati. Dr. Hall reported three cases, the first being that of a physician's wife who had had repeated attacks of pelvic inflammation, being slowly reduced to a condition of chronic invalidism; when first seen she had been in bed for months, and a tumor was present as large as a child's head; on abdominal section this tumor was found to contain pus; it was enucleated with difficulty, and ruptured during removal. Recovery slow but complete. Health now good.

Case II was 39 years of age; the youngest child born nine years before; had pelvic pain when this child was 18 months old; treated by local applications, which were followed by attack of peritonitis; continued succession of attacks of pain, and inflammation more or less relieved by assiduous treatment; an enlargement or tumor was discovered in pelvis some years ago; it was treated by a well-known physician by electricity; this treatment was followed by a very severe attack of peritonitis; various consultations, much opposition to operation on the part of eminent and conservative consultant. Finally, in April, 1891, when, after a final attack of peritonitis and sepsis lasting some weeks, the patient came under Dr. Hall's observation, a tumor somewhat larger than a cocoanut was found partially filling pelvis and extending into right side of abdomen. Abdominal section, dense adhesions to intestines, omentum and pelvic floor. Cyst everywhere adherent except for a small space on its upper surface. The sac contained pus and was removed with great difficulty. Patient rallied well, but died on the fourth day from the pre-existing sepsis,

which had been present for weeks before the operation. The reader called attention to the great evils resulting from delay, and the injurious character of advice so frequently given to discourage operation in these cases. He insisted that when a woman is really an invalid from repeated attacks of pelvic inflammation, caused by diseased ovaries and tubes, so that her life is threatened and existence is really a burden, she should be advised to have the diseased organs removed as soon as it is evident that nothing but an operation can give the hope of cure. Any physician who does not thus advise his patients is more than negligent of his duty.

Case III. — Double intraligamentous cyst; twenty months previously an abdominal section had been performed, and an intraligamentous cyst of the right side was found, tapped and fixed to the abdominal wall; after five months of suppuration the external wound closed, but a few months later pus found its way through the vagina, through a new opening which never closed. There were repeated attacks of peritonitis, confining the patient to the bed a month at a time. The last illness of this kind lasted from March until July, 1891, when she came under Dr. Hall's observation. There was then a ventral hernia at the old scar, with a tumor the size of a cocoanut in the pelvis and abdomen. Sufferings were continuous and terrible, except when under the influence of large doses of opium. The difficulties and dangers of operation were explained to the patient and her friends, but they preferred to take a desperate chance rather than that the patient should suffer longer. Abdominal section was performed

August 31, 1891. Extensive intestinal adhesions to abdominal wall and to the old cyst wall were found, which required an hour's tedious dissection for their removal; a large intraligamentous cyst on the left side was dug out, as it were, from the broad ligament, after which the other, which had once been stitched to the abdominal wall, was dissected out from the right broad ligament.

Both cysts were completely enucleated, as was shown by the specimens presented. Extensive intestinal adhesions were found in the pelvis, but were not liberated. The hernial sac was cut away, glass drainage tube inserted and cavity closed; death on fourth day from intestinal obstruction. The writer regretted that this case had been complicated by a previous and incomplete operation, which had caused the extensive adhesions, but felt sure that his operation was warranted and indicated. So long as the general practitioner persists in pursuing what he pleases to call conservative treatment in these cases, and keeps the patients under his care just as long as he can keep breath in them, and surgeons of the older class turn these patients from their consulting-rooms as non-operative cases, and thus defer relief, or the case is made still more complicated by incompleting operations, we shall continue to see just such desperate cases, and men engaged in this special work must act as surgical missionaries and have such neglected cases as the foregoing come to them for operation. While this state of affairs exists, what can we can hope for other than a high mortality in these delayed cases—and who should be held responsible for the deaths?

DISCUSSION.

Dr. ROSENWASSER, in referring to the last case, stated that in cases of intraligmentary cysts with intestinal adhesions, the broad ligament can be laid open and the cyst enucleated without disturbing the adhesions, which are attached to the broad ligament and not to the cyst. He thought that in some cases it was proper to stitch the cyst of the abdominal wall, pack with gauze, and drain.

Dr. ROSS, of Toronto, referred to a case where he operated a year previously for pelvic abscess; he had used drainage, but did not effect a cure, as the track of the drainage tube gave trouble. He operated again, but found the sinus formed by knuckles of intestines glued together, so that he could not get to the bottom of them; the patient finally died. Dr. Hall said that the adhesions which he had separated were those between the coils of intestines, which prevented access to the pelvic cavity; he had not interfered with the adhesions which were attached to the broad ligament. He believes in completing the removal of intraligamentary cysts at any hazard.

SURGICAL MANAGEMENT OF PELVIC ABSCESS:

By C. A. L. REED, M.D., Cincinnati. The writer limited the definition of pelvic abscess to suppuration occurring within the cellular tissues; it is a rare condition, the existence of which had been denied by operators of large experience, but which does, nevertheless, occur; it is usually a result of the puerperal condition, most cases of pelvic suppuration being due to disease of the tubes. Two cases were reported, in both of which

the uterine appendages were found to be healthy when exploratory incision was made; in both cases the cervix had been lacerated during labor, and the seat of injury had been infected, and suppuration had progressed to the cellular tissue, separating the folds of the broad ligament; as on operation the tubes were found healthy, a fact which could be known beforehand, an incision was made along Poupart's ligament, guided by the finger of the left hand, in the pelvic cavity. When the blade of the knife was felt close to the parietal peritonæum the instrument was reversed, and the handle was gradually inserted, lifting the peritonæum until the cavity of the abscess was reached. The median incision was now closed, and the pus cavity washed out with Marchand's solution of peroxide of hydrogen. A drainage tube was left in the lateral incision leading to the abscess cavity. In conclusion, Dr. Reed advised that, in view of the difficulty of making a diagnosis with precision in such cases, and since pus in the pelvis is usually found in the tubes, an exploratory incision should be performed. If the tubes are found to be healthy, and the abscess is really in the cellular tissue, which is a rare condition, drainage through the abdomen or vagina is hazardous. It is safest to make the incision along Poupart's ligament, with the finger in the pelvis in the median incision as a guide.

Dr. CARSTENS, of Detroit, reported a case of pelvic abscess following miscarriage. On abdominal section the uterus was found to be bicornate, one tube was congenitally imperfect, the other was occluded. The tubes were removed, the large abscess in the

broad ligament was evacuated, irrigated and drained.

Dr. MUNDÉ, of New York, insisted that an abscess can occur primarily in the cellular tissue of the pelvis, without previous disease of the tubes or ovaries; although cellulitis is not so common as was supposed formerly, when it was confounded with salpingitis, yet it does exist. When the tumor, which is found, is immovable, Dr. Mundé holds that it probably is extraperitoneal, while, if it can be moved up and down together with the uterus, it is intraperitoneal. In one such case he had closed the abdomen, finding no disease of the tubes, and had opened and drained the passage below. He approved of Dr. Reed's method of operating. Where such abscesses are opened from the vagina a fistula often remains which cannot be cured.

Dr. McMURTRY had never seen a case of pelvic abscess which was not of tubal origin; although cases of cellulitis may exist, they must be extremely rare, as men of very large experience report but very few cases.

Dr. JOSEPH PRICE regretted that teaching on this subject not only has been, but is yet, so erroneous. He had no knowledge of pelvic abscess except as secondary to and dependent on ovarian and tubal disease. In regard to hæmatocele, he had never found hæmatocele in all his experience; he always found a ruptured ectopic pregnancy. He had operated fifty-seven times for the latter condition.

Dr. JOSEPH HOFFMAN, Philadelphia, had never seen pus in the pelvis when the tubes and ovaries were healthy, unless as the result of appendicitis. Pus from the latter disease may bur-

row anywhere; he stigmatized the appendix as an anatomical tramp. Puncture of a pelvic abscess through the vagina he regarded as usually a losing game.

Dr. HALL, of Cincinnati, supported the statement of the last speakers, but approved of the treatment used by Dr. Reed for the rare cases where pus is found below the pelvic floor, while the tubes and ovaries are healthy.

Dr. E. H. GRANDIN, of New York, differed from these speakers in his views of treatment; he had seen ten or twelve cases of pelvic abscesses and retro-uterine hæmatocele, being accustomed to treat these troubles from below, and not from above. Such a treatment of pelvic abscess from below was not a losing game, as claimed by Dr. Hoffman. He had treated eight cases by vaginal puncture, and all were cured. He was convinced that abscess of the cellular tissue, apart from the puerperal state, is very rare, if it ever occurs. Pelvic abscesses for him were collections of pus in the lesser pelvis, shut off from the peritoneal cavity above. In these cases he aspirates the tumor, makes a slight incision by the side of the aspirating needle, inserts a steel dilator into this opening, and tears the parts sufficiently to introduce the finger, with which he breaks up the septa, and then washes out the cavity with peroxide of hydrogen; all his patients recovered and were not subjected to the shock of an abdominal operation.

Dr. PRICE objected that the pelvis might be full of multiple abscesses, comprising from six to ten collections of pus in the pelvis. These cases, as he saw them, were ugly and angry,

and he could not treat them by abdominal section.

Dr. REED, in closing, insisted on the distinction which he had defined in his paper between pus-tubes and pelvic abscesses; they are different conditions and require different treatment. The names should not be used interchangeably.

A PLEA FOR EARLY HYSTERECTOMY AND PUERPERAL HYSTERECTOMY:

By JOSEPH PRICE, M.D., Philadelphia, Pa. The progress of abdominal and pelvic surgery has so far advanced within the last decade that from occupying a doubtful position, both as to practicability and justifiability, it is now recognized as holding easily the vantage ground of refinement and attainments. It has vanquished opposition and won over its opponents; it has grafted its exact methods of procedure upon all other branches of surgery, and so lent its refinements to their advantage; and lastly, it has, by overthrowing the traditions and fables of surgery, given valuable aid in the line of therapeutics, in determining where surgery must begin and medicine must end, in the line of diseases hitherto considered almost entirely outside the domain of surgery. Standing as we do amid the wonderful successes of the present surgery, we are prone to credit nothing to the past save its feeble efforts and frequent failures. This is neither just nor reasonable. Pioneers, in every line of work, scientific or mechanical, or both, have the debris of ages to clear away, the superstitions of all who preceded them, and much that, in our own period, is explainable in the light of envy and jealousy.

The history of abdominal and pelvic surgery is all aglow with the heroic efforts, the personal sacrifices of its pioneers. Deep and gold-lined is the story of their anxieties, which finds a response in our own experience, and touch us with pathetic interest. Their mistakes made possible our successes; their trials made possible our accomplishments. By their failures we are warned and guided clear of many errors. Surgical invention has greatly improved upon and simplified methods. Where the spirit of innovation has bungled, the better genius of surgery has corrected. We are having cleanliness without the aid of chemical irritants and disinfectants. We are rapidly advancing to accept early operation as a dictum in pelvic and abdominal surgery. The mistaken conservatism advocated by a class of non-operating gynecologists is preserving for us a legacy of old error. But we are moving on. The steps may be slow and hesitating, but they are certain. Reckless innovation may be charged; but as a great American author has expressed it, "Innovation is the salient energy, conservatism the pause on the last moment. There is always a certain meanness of argument in conservatism, joined with a certain superiority in its facts. Its fingers clutch the fact, and it will not open its eyes to see a better fact. The castle which conservatism is set to defend is the actual state of things, good or bad. The project of innovation is the best possible state of things."

I can find no delight in so-called conservative methods. My experience disproves and condemns them. I find no delight in conservative methods, though there are many able

and conscientious men of the profession who counsel such methods. I cherish the bold hope that if we have not yet, we will soon reach the point of promptly recognizing those conditions which require radical surgical treatment, and will have the courage and skill to adopt it. With the clumsy meddlers and so-called conservatism out of the way, for they entail unreckoned and grave difficulties, we, encouraged by the advances, the marvellous results of the past ten years, claim it is possible for us to reduce our mortality to almost *nil* in our dealings with all hard tumors. In all operations it must be remembered that there are no hard and fast lines of treatment which we can invariably follow, step by step, in every case. A knowledge of the expedients and resources of all complications will bring in variations that are valuable and indispensable for the successful accomplishment of their surgery. A failure to understand this, and to be able to graft this or that procedure on an allied one, is the cause of little omissions in exactness that lead to the gravest consequences.

As to the time for entering upon the operation, it will become an axiom of surgery, if not now one, not to delay longer than to establish the fact that operation will be necessary at some time. This once granted, the earlier such operation is done, the fewer will be the complications, and all the dangers attending operation will be diminished or avoided. There will be a shorter operation, less handling of the parts, less shock, surgical and dynamic, and quicker convalescence. That good man, that able and trained surgeon, Dr. Thomas

Keith, in the dedicatory letter of his unique little book, "Contribution to the Surgical Treatment of Tumors of the Abdomen," says, "I write little, for I know little. I am every day changing the ways of my work, and the dread of giving an uncertain sound is heavy on my mind." Quoting still further, he says, "Indirectly, however, simple fibrous tumors, especially those of large size and those that bleed, may be the cause of death oftener than we think. In some the excessive anæmia that they produce seems to be the cause of paralysis."

I have seen several deaths from embolism, the result of inflamed uterine veins. Several times I have seen chronic peritonitis occasion great trouble, and not infrequently the peritonæum becomes the seat of malignant or papillomatous deposit, especially if the tumor be large. They are often a source of danger in all cases of abdominal inflammations, and they add much to the sufferings of those who are the subjects of diseased heart or lungs, when they become again active after menstruation has ceased. The cause of the activity is generally to be found in some sarcomatous degeneration. Of this I have seen some instances. I have only met a single case where there could be but little doubt that the fibroid had begun to grow after menstruation had ceased. Even in soft œdematous fibroids the tendency is for growth to cease, though this form is very unwilling to stop like the hard tumors. The caution of Baker Brown when he says, "Ovariectomy, in the hands of some surgeons who have only recently given their attention to the subject, is calculated to lead them and others to neglect or despise other modes of

treatment," is no longer to be heeded, in the presence of the large ovarian cyst. His advocacy of tapping and pressure for monocysts even is of very doubtful status, for tapping is not a simple procedure, and removal of the tumor and its contents is to the real surgeon the preferable procedure. We have in the now exploded bubble of electricity, in the treatment of ovarian tumors, an illustration of the wild enthusiasm that every new fad inspires in the willing conservative breast. So far as ovarian tumors were concerned when this treatment was promulgated, there was some reason, for at that time the surgery of the abdomen was not exact, and its results were crude compared with those at present obtained. The cry by Semelder of "no more ovariectomy," by the report of several cases of ovarian tumors cured by electrolytic treatment, threatened to nullify the achievements of numerous illustrious ovariologists. The treatment by this new method was at once so painless and simple, so sure and effectual, according to his accounts, that it seemed almost criminal to have subjected so many patients to the dangerous operation of ovariectomy.

All this has passed away, and the efficacy of electricity in ovarian tumors is scarcely hinted at even by the most ultra-enthusiast, and then only in the most doubtful and delusive manner.

I desire that the preceding portion of my paper shall be considered simply as a summarized expression of our faith in the possibilities of surgery, and as the foundation for a reasonable demand for a resort to exact surgery in those conditions and cases which, if left to themselves, go on

from bad to worse with only an accidental clearing up occasionally of their unfavorable features. There is no need of special pleading to establish the reasonableness of this demand. The only requirement is that we apply the same reasoning to this surgery as to other divisions of the work. We must start with the proposition that no uncomplicated operation ought to be dangerous; that the simple entering of the abdomen is without danger, in the hands of experienced men. I do not mean those with book experience. Too much is written according to the book, these days, that sounds well, and advertises well, and brings patients to private hospitals and *public funerals*. Supposed lectures are written, and go out as clinical teachings from men who have had scarcely any clinical experience at all. This is surgery under false pretences. Now, when surgical experience proves that the simpler the operation the less dangerous it is, and that the danger increases by exact gradation as the complications increase, what other conclusion to the argument is there than to demand early operation for conditions that in almost all cases eventuate seriously? This is especially true in fibroid tumors. The removal of the appendages is proved to be efficient in a majority of cases in controlling hæmorrhage, just as it is in the clinical testimony that in almost all cases of fibroid disease there is real disease in the ovary itself. In large tumors, the ugly nature of the complications, combined with the gradually increasing discomfort, is such that it makes delay criminal. We must operate *before the patient is past help, if we would save her*. Surgery as a last resort, after

temporizing has failed, is no criterion of what surgery can accomplish, and is no measure or standard by which it may be judged.

Experimental methods by experimentalists, brought forward only to enable their propagators to pose as geniuses of invention, are not a part of real surgery. Try all such suggestions in the light of efficiency in bad cases. A method suggested as only valuable in the simpler cases of hysterectomy has to be accountable for failure if tried in a complicated case. Treat every case, if you would succeed, as if it were the worst possible, with just as much care, exactness and judgment, and with no flurry for stage effect. A method which gives good results in bad cases is all the more likely to give good results in simple cases. This much must be said of the Koeberle serre-nœud. We have no right to allow puerile criticisms of

and on this instrument to cause us to lay it aside, when it is abundantly proved that it gives us the best results. Learn how to use it; learn what it does, how it does the work required, why it must do it; then reason, not prejudice or desire for overrefinement, will establish its simplicity and efficiency.

The writer reported sixty-eight supravaginal hysterectomies which he had performed, with but four deaths. In two of the fatal cases, malignant disease was present.

Two of the deaths occurred in the first eight cases. He then had had forty-three consecutive cases without a death, but lost the forty-fourth and sixty-third.

A full discussion followed this interesting and forceful paper, and the consensus of opinion was quite in accordance with the views propounded by the distinguished reader.

Southern Surgical and Gynæcological Association.

Fourth Annual Meeting, held in Richmond, Va., November 10, 11 and 12, 1891.

FIRST DAY—MORNING SESSION.

The association met in the hall of the Y. M. C. A., and was called to order by the President, Dr. L. S. McMURTRY, of Louisville, Ky., at 10 A.M.

Dr. JOSEPH PRICE, of Philadelphia, Pa., read a paper entitled

COMPLICATIONS IN PELVIC AND ABDOMINAL SURGERY, AND HOW TO DEAL WITH THEM.

He said his reasons, briefly stated,

for choosing this subject as the matter of his paper before this society, are that the importance of recognizing the part that complications play in the work of the surgeon is not appreciated by the generality of medical men, by general surgeons, and least of all by the tyro in surgery, and by those who are anxious to begin their surgical investigations and trial trips by an entrance into the domain of abdominal or pelvic surgery. First of all, it is to

be considered that the complications in this special branch of surgery are primarily those of surgery in general, with many things superadded to render them more formidable. By this he means that shock, the dangers of anæsthetization, hæmorrhage, are all to be found here as they are in all surgical experience. But the increment which renders these even more formidable than they are in the surgery of the external parts, lies in the fact that the organs dealt with or in relation with those with which it is intended to deal, are the really vital members of the economy. Hence the dangers from shock are intensified. The blood-vessels, too, are to be managed out of sight, often at the end of the fingers only, and special tactile sense is really necessary to insure thorough mastery of this complication, or rather disadvantage. These suggestions of the difference of the work of surgical interference as it is found by the general surgeon and the special surgeon in this department will be readily appreciated, if we consider them alongside of each other still further, for a little. The general surgeon has in almost all his *work the operation before him, and this* is the end to which he directs his efforts. The abdominal surgeon has a general end in view; but, alongside of this, he never forgets that the accidental operation that he may perchance have to do in order to *accomplish his original design* may, in its importance, overshadow and surpass all that it was originally intended to do.

It may be the intention of the surgeon to remove the appendages for a bleeding fibroid. Now, in ordinary operations the removal of the uterine appendages is to the skilled abdominal or pelvic surgeon one of the simplest

of undertakings. If, however, under the conditions named above, he attempts to accomplish their removal, without holding in mind the complications that as a rule exist, or if he is a neophyte, a learner, or an experimental dabbler, he will find too late in many cases that he has attempted an operation *that he cannot* finish, or that, if he does complete it, he has also sacrificed his patient or rendered her worse off than before. In other words, to accomplish a cure, he must abandon removal of the appendages and perform hysterectomy, which has but little in common with the operation originally proposed. Now, if this idea is still further carried out, we shall find that complications do not confine themselves to one system of organs, but extend to all surrounding structures, by reason of inflammatory adhesions. This is true of bladder, ureters, intestine, omentum, stomach and liver. Adhesions are the bane of abdominal and pelvic surgery. They are worse in pelvic than in abdominal surgery, and hence we see that the greatest mistakes and failures are made by those who *from a knowledge* of abdominal surgery simply have attempted to deal with pelvic inflammations. The abdominal surgeons who can be counted as really *successful pelvic surgeons* are therefore few. This is said with no intention of detracting from the importance of abdominal surgery. The strictly abdominal organs must always enter largely into the domain of surgery. What he means to maintain is that, generally speaking, the complications met in treating surgical affections of these organs are far less, and accordingly the difficulty of dealing with them is not so great. He had briefly outlined

the argument by which he wished to call attention to the importance of the term complication, and the reasons for which it enters more into the work of this special branch of surgery than into the surgery of the external parts. Now, let us consider complications in detail, and how we shall deal with them. In the first place, take adhesions. These in all pelvic disease are apt to fuse the adjacent structures, until they seem to be one conglomerate mass, and their integrity is threatened with destruction by efforts to separate them. Here, if we follow the rule of the general surgeon, or the post-mortem investigator, calamity will be our only result. We cannot use either knife or scissors to aid us. The dexterous use of the finger-tips, supported by the supporting nail, is our only resource. We must not expect to force our way with violence. Our only hope is to investigate carefully, find a plane of cleavage, such as the mineralogist finds and utilizes in his scientific investigations. These exist no less truly in inflammatory adhesions, and it is along the lines formed by such adhesions that the path of separation must be sought. As they cannot be seen they can only be felt, and it is here that the delicate tactile sense comes to the aid of the experienced surgeon, and enables him to distinguish between lines of cleavage, and advances into the integrity of those organs which it is necessary to preserve. Once having separated adhesions it becomes necessary to deal with the hæmorrhage that often accompanies their breaking up. Hæmorrhage here is what hæmorrhage is nowhere else. Ligatures will not control it, styptics cannot be used, and pressure cannot be applied indefinitely

in the usual way. How, then, shall we control it? First, we must resort to hot water, hot as the surroundings will tolerate without cooking them or attacking their vitality. He had in mind a late patient that he almost lost by neglect to flush the pelvis after a trying operation. We must get out of our heads the idea that irrigation is dangerous. Very often, in his experience, has hot water brought about a speedy reaction in patients whose lives were almost despaired of. We are told that cases do not need flushing; that they do badly under it. I reply that they do need flushing if they are desperate cases, and if they do badly they do so not on account of the flushing, but because of the operation that preceded it. Next, we have a resort to packing. Gauze packing accurately applied to the bleeding or oozing surfaces, so that it can be removed without interfering with the otherwise completed operation, is of infinite value in hæmorrhage. It can be suffered to remain indefinitely almost, broadly speaking, at least up to sixty or seventy-two hours, if absolutely clean and fresh, either salicylated or iodoformized. Next we shall remember that the drainage tube controls hæmorrhage. The tube is currently spoken of as if it were an annex to pelvic surgery, easily dispensed with. He uses it almost without exception in adhesions. His results are better than those obtained without its use. It is the testimony of the nurses that cases have more uneventful recoveries with drainage with the tube than without it. And there is a reason for all this. Drying the pelvis by constant removal of fluids gives the leaking vessels a chance to recover themselves and become sealed. Moisture

thwarts this. Now, how shall we take care of the tube? How shall we place it? How shall we dress it? All this belongs to the question as to whether it shall be used. Nothing will clean a tube so well as frequent drainage by the long-nozzled syringe. Capillary wick will not do it, because capillary wick will not take up debris that gravitates to the bottom of the pelvis, having escaped the irrigation, as it sometimes may do. Again, lymph hardening in the capillary meshes destroys their absorbent power, and thwarts the end for which it is used. Further, if there is the least irritating quality in the fluid which is drained it is retained in the tube by means of the wick and becomes more irritating. And lastly, the introduction of wick into a tube as small as should be used, and changed as often as is consistent with good and efficient drainage, is a matter not nearly so readily accomplished in any other way as by the syringe, if the wick is used. This is so plain as to admit of no controversy. Drain the tube often enough to keep it dry, dress it so as to keep the patient dry and clean, and remove it as soon as the discharge is clear, are the postulates of its successful application. Adhesions—how are we to deal with them if complicated with intestine? It is evident that the integrity of the bowel is to be maintained. Hence, if it is injured, it is to be stitched up with the finest possible silk, in the neatest possible way, and in a manner not to interfere with its functions. No holes are to be left in the omentum, and stringy masses thereof are to be carefully tied off. We should pay especial attention to bringing the omentum down into as near a physiological position as

possible. Leaving it to itself, where it can contract adhesions at will whenever it pleases, is a sure way to have after-complications to deal with. If it is to adhere to anything it should be put where it will be likely to cause least trouble.

Re-operation on old cases is the worst possible state of affairs to contemplate. One never knows what is going to turn up. There is often very little to be hoped, and however great the care, the results are often bad. One reason is now no longer present for re-operation. He means the use of strong antiseptics in solution, spray and otherwise. They formerly were at the bottom of a great deal of post-operative inflammation. The direct method of dealing with all pelvic inflammation is urgently to be advised. Instant enucleation cannot fail to be more satisfactory than any other means. Puncture per vaginam is easily disposed of as unsatisfactory and often dangerous. When enucleation is practised, we have under our eye or touch the essential relation of the parts and their environments, and we also know to what extent the mischief is confined to one set of organs, and whether it has implicated this or that structure. Not so when any of the so-called conservative methods are used. Here we grope in the dark. We wait until this or that set of symptoms is developed, and vainly strive to justify the methods of delay by imaginary refinement of diagnosis, which cannot be made outside of the pelvis, to say nothing of its impossibility inside of it.

The plea of his paper is for exact, absolutely exact, painstaking work, that shall leave nothing for regret—

nothing to do over, nothing to explain—but shall stand out in the light of results as justifiable, scientific and perfect, when put beside methods that palliate without curing, and are no more a part of real surgery than is hypnotism refreshing sleep.

FIRST DAY—AFTERNOON SESSION.

Dr. C. KOLLOCK, M.D., of Cheraw, S. C., read a paper on

OVARIAN CYSTS, WITH THE REPORT OF A CASE OF OVARIOTOMY IN A YOUNG GIRL.

He said that the causes of ovarian cysts seem to be still a question *sub judice* in the minds of those who are most progressive, and who have made the greatest advancement in the science of gynæcology. Various theories have been put forth by those of large experience, who are earnest seekers after truth, and who are patient investigators of all unnatural and morbid phenomena; but no satisfactory decision has been obtained from all the patient and searching investigations that have been made as to the cause of this singular, unaccountable and sometimes fatal neoplasm, characterized by histological diversity from the viscus of which it is a production. Some of the theories seem, at a glance, to be plausible, but upon close study we find they will not bear inspection. Although coming from those whose opinions command respect, we see that they are diametrically opposed—one flatly contradicting the other.

The production of the dermoid cyst is plain enough, for that is not confined to the ovary, but is sometimes found in the testis. A dermoid cyst is a result of an abortive conception,

is a fœtus in fetu, and originates in early embryonic life. Dermoid cysts have been found in the ovary and in the testis of the fœtus as early as the twelfth week after conception. This is simply a freak of nature, and cannot be attributed to any pathological condition. The genuine ovarian cystoma has also been found and removed from an infant a few months after its birth. Would it not be a bold push upon credulity, and would not a heavy draft upon imagination be necessary for us to suppose that a fœtus of a few months of age had been subjected to any of the agencies, influences and conditions that have been reckoned among the exciting or predisposing causes of ovarian cystoma?

Among the exciting causes, Scanzoni and others reckon the increase of fluid in the ovi-sac, which is a hyperæmia of the ovary, as the most potent. But hyperæmia of the ovary occurs at each menstrual period; and if this overplus of blood produces ovarian cystoma, every congestion of the ovary and every attack of oöphoritis should, as a rule, be followed by the production of some neoplastic growth of the ovary. To carry out the idea of ovarian hyperæmia being an efficient exciting cause of ovarian tumor, they should be more frequent on the left ovary than on the right. The anatomical arrangement of the vessels of the left ovary causes it to be more liable to hyperæmia than the right; and it is generally conceded by gynæcologists to be more prone to oöphoritis than the right. But statistics prove cystic degeneration of the right ovary to be more common than the left.

Among the predisposing causes, a

scrofulous diathesis, chlorosis, excessive menstruation, marriage and sterility are recorded by many. But according to just and carefully prepared statistics, the presence and active operation of all these agencies and influences prove nothing satisfactory. Patients are found with ovarian tumors who have never been subjected to any of them; while some who have become exposed to all have escaped. While some of these influences and conditions may tend to increase a cystiferous action in any glandular structure, there is a want of positive evidence of their being fairly reckoned as predisposing causes of ovarian tumors, or even aiding in the production of intraligamentous cystoma. According to statistical evidence now at hand, we are forced to confess that there must be influences or conditions of which we are ignorant producing these monstrous and distressing growths in the pelvic cavity. As no system of prophylaxis will check the production of this neoplasm, the question of surgical interference comes up. In this era of asepsis the knife has been made almost an infallible remedy for cystic degeneration of the ovaries.

Dr. KOLLOCK then reported the following case:

Miss C. L. H., aged 11 years, 8 months and 19 days, general health perfect in every particular. Menstruation first appeared about two months before she was 11 years of age, and continued with perfect regularity, never excessive or scant, nor was it accompanied by the slightest pain. Her physique was fine in every way. Though less than 12 years of age, she weighed 135 pounds, was strong and active. Her breasts were as full and

large as those of a woman of thirty-five. She was very handsome, had a fine voice and sang beautifully. She was very intellectual, and stood at the head in all her classes in a large high-school. He saw her for the first time on the 9th of January, 1891. The abdomen was greatly distended, but facies ovariana was not very pronounced. He was confident she had an ovarian cyst, and he rather suspected she had two. On the 16th of January he made a section about three inches below the umbilicus and removed a cyst from each side, the one on the left weighing twelve pounds, and that on right seven pounds. A more prompt recovery the writer had never seen from the simplest operation. Union by first intention took place, and the sutures, silver wire, were removed at the end of the seventh day. In twelve days she was up and about her room, and on the twenty-third day after the operation returned to her home, a distance of 200 miles.

It is now ten months since double ovariectomy was done on this young girl, and there has not been the slightest discharge from her of any kind. At each menstrual period there was considerable commotion in the pelvic region, attended with some uneasiness in the head and back, but at each period these symptoms decreased, and the last two were accompanied by no pain whatever. The remarkable physical development in this case still continues. It is now ten months since the operation. She has regained six pounds in weight, weighs 141 pounds, and looks better than before she underwent ovariectomy. This young girl came from the purest and healthiest stock of people in this region. Not an individual on either side was ever

known to have any constitutional trouble of any kind. Her mother and family physician, both highly intelligent, say they never knew her to be the least indisposed in any way.

LAPAROTOMIES PERFORMED DURING THE PAST YEAR.

This was the title of a paper read by Dr. THOMAS OPIE, of Baltimore, Md.

The tabulated statement accompanying the paper embraced thirty-two abdominal sections made in the twelve months, beginning November 1, 1890, and ending October 31, 1891.

The operations were performed consecutively, as set forth in the accompanying table. They were :

Ovarian tumors	6
Chronic ovaritis	7
Fibroid tumors	4
Pyosalpinx	5
Retroflexion with adhesions and dysmenorrhœa	3
Exploratory incisions	3
Extrauterine pregnancy	1
Abscess of ovary	1
Cyst of broad ligament	1
Cystic degeneration of ovary	1
	—
	32

Nine of these patients were operated on in the amphitheatre before the whole class at the College of Physicians and Surgeons; the remainder, twenty-three, were operated on privately. Twenty-seven were white, and five were colored patients. The deaths were as follows: Oöphorectomy for pyosalpinx, 1; shock from ovariectomy, 1; oöphorectomy for acute mania, 1; and abdominal hysterectomy for fibro-cystic tumor, 1. Total, 4.

Stitch Abscess.—This complication occurred nine times, a much larger number relatively than he had seen recorded heretofore; while no case proved disastrous, several were ex-

ceedingly annoying in delaying patients in the hospital. They occur most frequently in cases where the drainage tube has been used. The early opening of abdominal dressings for any purpose favors their occurrence. When the dressings remain intact for seven days there seemed to be the greatest immunity from the stitch abscess.

Drainage was resorted to in but three cases during the year. Case II, ovarian and dermoid cyst, had a drainage tube in five or six days, and the writer is convinced that it retarded the patient's convalescence. He is of the opinion that too much flushing is done; and that it is but seldom called for. A plentiful supply of fine, properly prepared elephant-ear sponges will do away with the flushing in most cases and remove the necessity for drainage. They are efficient helps in keeping the abdomen free from infection.

SECOND DAY—MORNING SESSION.

Dr. WILLIAM WARREN POTTER, of Buffalo, N. Y., read a paper entitled

A MEDICO-LEGAL ASPECT TO PELVIC INFLAMMATIONS.

He said that pelvic inflammations in women have been described, discussed and debated from almost every point of view imaginable until our periodical medical literature is flooded with articles on the subject, and medical society transactions are teeming and bristling with papers pertaining thereto. So far, however, he had not observed that any one had undertaken to discuss these intrapelvic conditions from a medico-legal standpoint. It is his purpose in this paper to present that aspect of the question, taking for his text a case that developed an interesting problem in that respect.

History.—The following is an epitomized history of a case which will illustrate the chief points that he wishes to consider on this occasion :

A married woman, 22 years old, and in the sixth month of pregnancy, fell into a shallow trench or excavation that was left open during the laying of a new street pavement. She was immediately helped out by her husband, and walked home, a distance of several blocks. She made little or no complaint of the accident for a fortnight, when she began to complain of pain and called in a physician, who pronounced her suffering from diffuse or general peritonitis. This attack subsided in due time, only to be followed by another and still another within the next few weeks.

About three and a half months after the alleged fall she was delivered by forceps, apparently at term, of a stillborn child. The foetus was described as emaciated, but not putrescent; and it was ascertained that motion had been felt by the mother a few hours before delivery. After a reasonably prompt puerperal convalescence, the woman began to complain of pain in the right hip-joint, which was so persistent that a physician, not her attendant during delivery, was called. This physician was in attendance for a short time, but as relief was not obtained under his ministrations, she recalled her first medical adviser and re-established him in charge of her case. The pain, meanwhile, continued, and her physical condition was such as to excite considerable apprehension, so her physician called as counsel a surgeon. He pronounced it a case of hip-joint disease, and the extremity was placed in an extension splint, such as is

ordinarily used by surgeons in coxitis. This dressing was kept on the extremity for a period of two months or more, at the end of which time she was pronounced sufficiently relieved to do without the extension apparatus.

In the meantime a suit for damages had been entered against the city, with the paving-contractors as co-defendants. Before it came to trial the reader was invited by the counsel for the defendant to examine the patient in association with Dr. M. D. Mann, of Buffalo, with a view to determine her present condition, and, if possible, the cause of her ill-health. We found an inflammatory mass in the pelvis on the right side of the uterus. It was tender and indicative of tubal disease. The hip-joint was mobile, not shortened; and was free from deformity or roughness, and besides there was nothing to indicate that it had ever been the seat of tubercular disease, or any bone malady whatsoever.

There also were present at this consultation the attending physician and Dr. B. H. Daggett, of Buffalo, a surgeon of experience, and it was the unanimous opinion of all that there never had been any joint disease, but that the woman had suffered from reflex pain in the hip caused by the pelvic inflammation, of the existence of which we found unmistakable evidence.

The counsel for the prosecution at the trial contended that the woman had received an injury at the time of the alleged fall, which subsequently caused the birth of a stillborn child, and which also produced hip-joint disease; that a competent surgeon had been employed, who cured the hip in a few weeks, so that now no

trace of the disease remained, and that the woman was practically well, but that damages were asked for the ill-health which ensued as a direct result of the alleged injury, and which subsequently caused the still birth. On the other hand, the defence maintained that the woman was seized with the pelvic peritonitis due to disease of the appendages; that she had several recurring attacks prior to delivery; that subsequent to delivery she suffered from reflexes incident to the repeated attacks of local or pelvic peritonitis, and that subsequently she recovered therefrom in so far as the joint was concerned. It was further contended that the masses still within the pelvis were indicative of thickened and inflamed tubes, and that she was yet liable to recurrences of similar attacks. The testimony for the prosecution was supported by the attending physician and the surgeon who treated the joint for hip disease. The theory of the defendant was supported by the testimony of Dr. Mann, Dr. Daggett and Dr. Potter. A verdict was given the plaintiff in the sum of \$2,200, as he remembers, the claim having been for a much larger sum.

REMARKS.

The reflexes pertaining to disease of the pelvic organs in women are many and various. For the most part they have been recognized and well described by writers, and have come to be understood as such a common accompaniment of these disorders that very little remains to be said in regard to the majority of them. These reflexes reside principally either in the cerebro-spinal system or in the gastro-intestinal tract. They are of

a character, generally speaking, to make a woman more miserable than the disease which is their underlying cause—the *fons et origo*—of her ill-health. Many of them have become classic and have been amply catalogued in the text-books. It is the reader's purpose at this time to direct the attention of the association especially to a class of reflex symptoms which are frequently manifest during the course of or consecutive to pelvic inflammation, and which he has seen manifested in the larger joints, especially the hip and knee.

He presumes it has fallen to the lot of many in his presence often to have seen cases that have complained of pain in the joints and extremities during the progress of pelvic disease, and which they had recognized readily as reflex in character. It has been a frequent occurrence in his own observation to meet with such, but he had never seen a case where the symptoms were so clearly misinterpreted and such extreme treatment applied as in the one related. It is a common observation that general surgeons are apt to misinterpret the real meaning of symptoms in cases of a similar kind, but in his experience it has rarely led to such misapplication of remedial measures.

If we reflect a moment on the peculiar relationship of the hip-joint to the pelvis, and particularly upon its intimate nerve communication with the pelvic organs, we shall be able to appreciate the great liability it has to sympathy with any disease located in those organs. A low-down backache has always been regarded as one of the commoner symptoms connected with the pelvic disorder, and it is very easy to understand how

a disturbance of the cord in this locality may be carried downward and outward through the sacro-sciatic foramen, along the great sciatic nerve, and, by its articular branch, into the joint itself. The deep gluteal region and the structures surrounding it are often the seat of severe and continued pain, as we have all many times observed, and it is quite possible that neuralgia, rheumatism and various other names have been given because of these symptoms, when, in reality, they were only reflexes of true pelvic disease.

The attention of the association was invited to a paper by Dr. R. H. SAYRE, read at a late meeting of the Orthopædic Section of the New York Academy of Medicine, entitled

THE IMPORTANCE OF THOROUGH EXAMINATION IN SUSPECTED POTT'S DISEASE.¹

In this paper Dr. Sayre refers to the fact that many cases have been treated for genuine Pott's disease, with corsets and braces, that were afterward ascertained to be due to disease of the pelvic organs with spinal reflexes simulating Pott's disease. He had himself treated a lady, 26 years of age, who had received an injury of the right hip, which was followed by severe pain in the back and lower extremities. These pains were worse at night. A prominent physician, whom she consulted, pronounced her case Pott's disease, and applied a leather corset. She grew worse under this treatment until there was loss of power in both legs and arms. Two other competent physicians made a similar diagnosis, and various braces and plaster jackets were applied with-

out benefit. When she first came to the author, she was still wearing a plaster jacket, though she could then walk with difficulty and was bent forward. She suffered pain from every jar, there was rigidity of the spinal muscles, and she complained of pains in the lower part of the abdomen, running down the thighs. In this case the uterus was found to be retroverted and bound down by adhesions. Alexander's operation, followed by the use of a pessary, faradism and other measures, finally restored her to health. He related two other cases of a similar nature. From this it would seem as if the spinal cord and its various projections furnished a favorite field for the manifestation of pelvic reflexes, and it was in the hope that further light may be thrown upon this important field of research that Dr. Potter had introduced the subject for discussion before the association at this time.

The principal points of emphasis are:

(1) The intimate anatomical relations between the pelvic organs and the larger joints of the lower extremities—especially the hip and knee joints—render them liable to reflexes.

(2) The importance of careful diagnosis at the outset, lest grave errors and possible disastrous consequences may result from treatment.

(3) The medico-legal bearing that errors of judgment in diagnosis and treatment may have in relation to the patient as well as upon the reputation of the physician.

Dr. I. S. STONE, of Washington, D. C., read a paper on

THE PEDICLE IN HYSTERECTOMY.

The three principal methods were

¹ Buffalo Medical and Surgical Journal, vol. xxx, p. 537.

described and illustrated by colored drawings, showing the arrangement of the pedicle in the abdominal wound. The author claims a revival of interest in the operation, and that there is need for its frequent performance.

The statistics are far better now than ovariectomy claimed after it had become an operation of election, and was firmly planted in public favor.

Particular attention is given by the author to tying off the broad ligaments and the use of the elastic ligature. Sewing the parietal peritonæum to that of the pedicle in the extraperitoneal cases was also dwelt upon.

The method by ventro-fixation had given good results in the author's hands, and serves to accomplish two important purposes—a speedy convalescence and avoidance of the disagreeable sloughing which follows the use of the wire clamp. It may also be used in some cases of short pedicle, where the wire may not easily be applied. The methods were compared and statistics furnished, showing that the extraperitoneal method with “wire” and “pin” gave better results than either of the others; that ventro-fixation came next, and the intraperitoneal method last, with a large mortality. A method of closing the capsule over the stump was described, which the author claimed would answer for either *dropping* it, or sewing in the wound—ventro-fixation. In the latter case the suspensory sutures are inserted, and

the pedicle sewed in and under the lower end of the abdominal incision. Great care is required in closing the capsule over the raw surface of the stump, so that separation may not occur. Owing to the peculiar contractile nature of the capsule, care must be taken to leave sufficient length for approximation of peritoneal surface.

The uterine arteries are to be tied in any case when hæmorrhage is likely to occur, and drainage may be required.

Besides reference to “methods,” the author described the process through which the wound passes subsequent to supravaginal hysterectomy.

All myomatous tissue should be removed, which can only be effected in some cases by a process of “reduction” of the pedicle. This is very important, as, in the operations where a large amount of myoma is left, more time is required for atrophy and absorption to reduce the pedicle to its proper size. Great danger to the patient is apt to follow, where a broad base of the tumor is left in either method of treatment, because this mass must be disposed of before the patient entirely recovers.

The author had observed a sufficient number of cases to declare that permanent fixation of the stump to the abdominal wall was the rule, where the extra-abdominal methods were used, and, especially, when the broad ligaments were cut away to prevent traction.

Medical Society of the State of New York.

THE next meeting of the Medical Society of the State of New York will be held at Albany, February 2, 3 and 4, 1892. Dr. Seneca D. Powell, No. 12 West Fortieth Street, New York, Dr. James D. Spencer, of Wassertown, and Dr. Franklin Townsend, No. 2 Park Place, Albany, have been appointed the Business Committee.

Any communication regarding papers or any matters pertaining to the business of the society, which should properly come before the Business Committee, should be addressed to Dr. Seneca D. Powell, No. 12 West Fortieth Street, New York City.

A. WALTER SUTER, *President*.

F. C. CURTIS, *Secretary*.

TRANSLATIONS.

The Treatment of Post-partum Hæmorrhage.

Dr. Alfred Dührssen, Instructor in Gynæcology in the University of Berlin.¹

IN this very thorough work DÜHRSEN recommends anew the tamponade of the uterus, respectively of the entire genital canal, and limits its use above all to atonies occurring after the third stage of labor; he also recommends the employment of his method in other post-partum hæmorrhages, especially in the lacerations of the cervix. For both varieties of hæmorrhage he thinks tamponade to be the procedure which is most quickly performed, least dangerous and safest. As regards the historical retrospect, he succeeded in discovering that the physicus WENDELSTADT of Wetzlar (1806) was the originator of this procedure.

In seventy-nine cases tamponade was performed up to date by Dührssen and other gynæcologists;

sixty-five cases he has statistically tabulated at the end of his work. The actual results, as seen from this table, show the value of this procedure. These alone would suffice to contradict the different objections to this method, *e. g.*, that the tamponade prevents the contraction of the uterus. In fact, all the observers could state that the uterine musculature contracted after the tamponade, and, what is the most important, that it did not entirely relax again, as is very often the case in employing other measures, but continued in the condition of contraction. The tamponade acts through *contraction* as well as through *compression*. Its action is equally distributed over all parts of the uterine wall, *i. e.*, also over the place of the placental attachment, which is a great advantage over manual compression, etc. In those cases which

¹Sammlung klin. Vorträge, No. 347, Centralblatt für Gynækol., Nr. 10, 1890.

died in spite of the use of the tamponade, the cause lies therein that this procedure was employed too late after all other means (hot and cold irrigations, ergot, etc.) had been tried and the patients were in the last stages. The wrinkled gauze is much more efficient than the smooth-walled colpeurynter in producing uterine contraction.

As hæmorrhages from the lower segment of the uterus are diminished by uterine contraction, tamponade of the uterus indirectly contributed to the checking of such hæmorrhages. If deep lacerations of the cervix be present, then time is gained through the tamponade for the preparation of the suture. The tamponade does not require any great exactness from the sometimes somewhat excited practitioner in regard to the diagnosis of the seat of hæmorrhage; therefore, *it should always be employed in doubtful cases*. Hæmorrhages from lacerations of the vagina and perinæum will be the more easily detected after its performance.

The material used for tamponade must be *aseptic* (in emergencies it may be improvised by holding pieces of linen in boiling water for five minutes). Absorbent cotton gauze is more appropriate, as it absorbs better without easily giving off again the liquid. After tamponade of the uterus has been accomplished the vagina may be packed with cotton.

Tamponade is also recommended in patients who are already infected. The tampon may be used as a carrier of disinfecting material (iodoform); thereby the putrefactive process which has already taken place will be checked, and if a laceration of the

cervix be present the latter will be protected from infection.

The danger of introducing germs from the vagina into the uterus (auto-infection), in carrying out tamponade, may be avoided by previous thorough cleansing of the vagina. As every other obstetrical operation, so also tamponade demands the utmost asepsis on the part of the physician.

The technique of the procedure is very simple. Dührssen carries sterilized gauze or iodoform gauze with him in a tin box, and after a hot irrigation he introduces it directly, without touching it with his hands, by means of a pincette or dressing forceps, through the os, which has been drawn down, by the aid of a pair of bullet forceps, into the cavity of the uterus. He then packs the vagina with gauze or, better, with cotton. Anæsthesia is usually superfluous in this easily accomplished procedure. Infection is excluded if these directions are carried out exactly.

On account of these advantages of his method, Dührssen recommends the *prophylactic tamponade* in order to check hæmorrhages in *statu nascendi*—i. e., if after the expulsion of the placenta there is any essential hæmorrhage, tamponade should immediately be resorted to.

His statistics prove that hæmorrhage has immediately been checked in all cases by means of the tamponade, and that death ensued only in a single case, through a gross error. Deaths from hæmorrhages only occurred where tamponade was employed in the last stages.

Dührssen further recommends in conservative Cæsarean section to tamponade the uterus through the abdom-

inal wound and to lead the gauze through toward the vagina in order to prevent every possible atonic hæmorrhage. Finally, tamponade has also proved beneficial in rupture of the uterus, when not only the entire geni-

tal tract, but also the neighboring parts of the pelvic cavity are packed. The gauze checks the hæmorrhage, takes care of drainage, and prevents putrefaction. P. & P.

The Dangers of Tuberculous Milk.

By a Veterinary Surgeon.

It is a well-established fact that cattle are frequently affected with tuberculosis, and die of the disease. Persons not accustomed to the ways of doctors are apt to think that they may be mistaken when they speak of tuberculous cattle, and the dangers which result to men, women and children from such cattle. But there is no more difficulty in diagnosing consumption in a cow than in a human being. It is quite easy to see that a particular animal is wasting away. It is just as easy to observe that it is short of breath and has a bad cough. Those symptoms are as patent to the farmer as to the doctor. When in addition the medical man uses his stethoscope, his percussion, his thermometer, and all the other methods of a specialist, the nature of the disease is established beyond a doubt. But if any critic still remains sceptical the deadhouse offers testimony which cannot for a moment be called in question. Here, for example, is the clinical record of the case of a tuberculous cow: On June 15, 1878, an experienced veterinary surgeon was called to see a red and white cow. The animal had a cough and was short of breath; its temperature was 104°. Percussion and auscultation showed that one part of the right lung was too solid, and

another part had a cavity in it. The surgeon expressed his opinion that the cow was tuberculous, and advised that she should be destroyed. She was not destroyed; on the contrary, she was kept and milked, and the family used the milk. Six months later the same veterinary surgeon was called to visit the cow, and found her with a higher temperature, a quicker pulse, and more rapid breathing. Every sign of tuberculosis was more marked, and again the destruction of the animal was advised. Three months later a further visit showed rapidly advancing tuberculosis, with much emaciation. The family still continued to use the milk, although on the occasion of each visit they had been advised not to do so. At the end of May, 1879, that is a little less than a year from the first visit, the surgeon was called in a great hurry. The cow was evidently dying, and did die in three hours. There was now an opportunity of proving or disproving the tuberculosis theory by means of a post-mortem examination. The examination showed that both lungs were infiltrated with tubercle; and not only so, but that the kidneys, intestines, udder, and other parts, including the flesh, were in a tuberculous condition. Now the object of giving this history

at some length is to relate what followed, and to found an important practical conclusion thereupon. Within three months of the death of the cow the farmer's baby was taken sick and died. A post-mortem examination was made, which proved that the cause of death was tubercle of the brain and lung. More than a year after that a second child died, also from tubercle of the lung. Those children had not eaten any part of the flesh of the cow, of course, but they had drunk the milk. The moral certainty was that the milk of the tuberculous cow had been the cause of the rapid consumption in the children; for both parents and grandparents were still alive at the time of their death, and no previous case of consumption had ever been heard of in the family. There are three practical lessons to be learned from this

history. The first is that the cattle which are reasonably suspected of being tuberculous should be destroyed at the cost of the State; the second, that milk from sickly animals should never be drunk at all, much less when those animals are suspected of tuberculosis; and the third, that the flesh of such animals should never on any account be eaten. Some competent observers believe that tuberculosis originated with cattle, and that it would be entirely stamped out by carefully isolating all the human beings that are consumptive, and killing and destroying the flesh of all the cattle that show any signs of the same affection. That, we consider, is going too far, but the whole subject is well worthy of the serious consideration of both medical scientists and the public at large.—*The Trained Nurse*.

Secretion of Blood Instead of Milk.

DR. HABERGRITZ, of Witebsk, Russia, reports, in the *Allgem. Med. Central Zeit.*, a case of the secretion of blood in the breasts. The patient was a young married woman, who, when she had been pregnant with her first child, about six months, consulted Dr. Habergritz as to whether the fœtus was alive. He noticed some blood stains on her linen in the neighborhood of the breasts, and on examination found that drops of pure blood could be expressed. The patient said that the bleeding had begun when she was five months pregnant, and she did not know that it was an unusual occurrence, and therefore had not mentioned it. During the rest of the pregnancy the phenomenon continued, and the pa-

tient suffered besides from two or three attacks of epistaxis. Two days before labor came on the bleeding ceased, but it reappeared in increased amount the day after. The patient was very anxious to nurse the child, but as it drew nothing but blood, this had to be discontinued. On the seventh day the color of the secretion began to change, and by the eighth it had all the characteristics of ordinary colostrum. The child was then allowed to take the breast, and nothing further abnormal was observed. It should be mentioned that the woman was perfectly healthy; there were no traces of gout, hæmorrhoids, cancer or of hæmorrhagic diathesis.—*The Lancet* of July 19, 1890. P. & P.

PHILADELPHIA OBSTETRICAL SOCIETY,

November 19, 1891.

PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

DR. B. C. HIRST :

VAGINAL FIXATION FOR TOTAL PROLAPSE OF THE UTERUS.

Vaginal fixation for retro-displacement of the uterus has been tried now in more than 200 cases with a success sufficient to give

the operation an established place among the operative procedures for this condition. The Schücking operation has also been applied in a few cases for the cure of prolapse. Five women in all, I believe, have been operated on by this plan with success. In two of the cases, if my memory serves me, the women were field laborers, and resumed their arduous work after the operation without a return of the prolapse. In one of the cases the uterus was the largest which the operator had ever seen in this condition. There seems much to recommend the vaginal fixation of the uterus in prolapse, on theoretical grounds. If an anteversion can be maintained a falling of the womb is improbable, for its long axis is held at right angles to the long axis

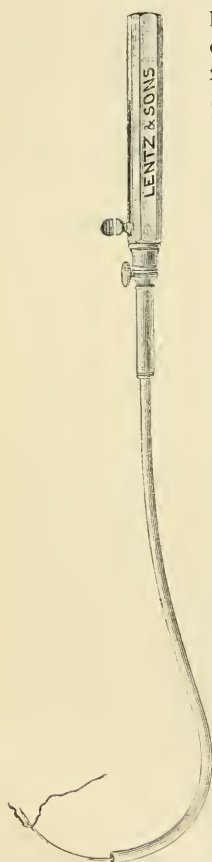
of the vagina, and it is a common experience to see prolapse of the womb cured in consequence of extensive inflammation at the anterior vaginal vault. Two cases of this sort

have come under my notice. In both there was a vesico-vaginal fistula, the result of pressure from a large ring-pessary which had been allowed to remain in the vagina too long, and which had ulcerated through into the bladder. Clinical results, however, constitute the crucial test, and I shall watch the outcome with great interest in a case of total prolapse in which I operated about four weeks ago. If an experience in a number of cases is favorable to the operation, gynecology has made a great gain, for the vaginal fixation is easily and rapidly done, and is, above all, without danger, in this being immeasurably superior to abdominal fixation, which is by no means sure to obtain a good result, and which has a decided mortality. I exhibit here the Schücking needle, which, by description, at least, is no doubt familiar to the members of the society. In the technique of the operation I made a small departure from the plan at present in vogue, using two ordinary dress-buttons to prevent cutting of the tissues, and tying the ligature thread over them. The use of perforated shot to clamp the threads is an unreliable method. I was obliged to do the operation over again because the shot slipped the first time, and I have since found that shot can be pulled off any kind of ligature, no matter how firmly they are clamped on. I have twice, since the operation, pulled out the slack of the ligature, and have secured the slack with shot, which have held because the strain on them is no longer great. In the course of the next two weeks the ligature, I expect, will come away entirely. At a future date I shall report the ultimate result of the operation to the society.

DR. GEO. BOYD :

A SERVICE AT THE LYING-IN CHARITY.

During my service of four months following February 1, 1891, there were admitted into the hospital ninety-one cases, and dur-



ing the same time eighty-seven cases were discharged.

Two deaths occurred in the four months, I having been the fortunate or unfortunate one to have the mortality for the year's work. In the year 198 women were delivered.

Not less than seventy-five per cent. of the cases were attended by our student classes, under the guidance of the physician on duty or the resident, two students attending each suitable case in the hospital and complying with the following rules:

"No student shall have been present at a post-mortem or have been engaged in dissecting within twenty-four hours prior to attendance in the hospital.

No student in immediate attendance upon septic or contagious cases shall have access to the maternity wards.

Students in attendance upon cases in the hospital are subject to the visiting physician, or the resident physician, in his absence.

Each student, before entering the confinement-room, shall exchange his own coat for a linen coat furnished by the hospital.

Before examination of a patient he shall prepare his hands according to the following directions:

(1) Hands and forearms shall be thoroughly washed with soap and water.

(2) The nails must be carefully cleaned with a nail-brush.

(3) The hands must then be immersed in clean water, and

(4) Then transferred to a solution of 1-1000 bichloride of mercury.

(5) Carbolized vaseline must then be applied to the examining finger, without the hands being dried.

(6) Not more than two students will be permitted in the wards or lying-in room at one time."

The waiting cases occupy an adjoining building until a few days prior to their expected confinement, or until labor begins. They are then removed to the hospital, given a bath, and, if in labor, taken to the confinement-room.

Two rooms, one on the *third*, the other on the *fifth* floor, are used in succession. After each confinement they are thoroughly disinfected, the one remaining idle until the other room has been used, when the second room goes through the same cleaning.

I used, during my term, the glass catheter.

the nurse sometimes attaching to it the soft rubber catheter simply to increase its length. The catheters, when not in use, are kept in a solution of bichloride.

With the commencement of labor the patient is given a rectal enema and vaginal injection. It is our custom to carefully examine the vagina in each case before labor, and to institute such prophylactic measures as may guard against the development of ophthalmia.

Anæsthetics were only used where some obstetrical operation was necessary.

The bichloride and creolin were used as antiseptics; frequently bacilli or suppositories of iodoform were used; always when the perinæum was injured, either slightly or sufficiently to cause operation.

Ergot was not used.

The diet of the hospital is: the first day liquid, soft until the fourth, and then the usual house diet.

On the seventh day after delivery, should the patient be doing well, an examination is made and the condition of the perinæum and uterus noted.

On the *tenth* day patient is allowed a bed-rest, the next day is out of bed for a short time; if doing well, she is discharged at the expiration of the *fourteenth* day.

In two of the eighty-seven cases, the infants were born by the breech.

The vertex presented in eighty-five cases, assuming the third position as next in frequency to the first.

One of the breech cases was of interest. A negress with a very small child—the pelvis too small to cause dilatation of the soft parts—for some time the genitalia of a male infant protruded from the vagina.

One labor was induced.

The forceps were applied four times.

There was one twin pregnancy, both children, a boy and a girl, presenting by vertex—a single placenta, with two amniotic cavities.

A case of blighted ovum, with a report of the two deaths, will, I think, be of some interest.

A CASE OF BLIGHTED OVUM.

The patient, from whom the specimen I present was obtained, came to the daily clinic of the hospital December 18, 1890. She was an American, aged 24 years. Her family history was good. She was married six years ago, and, with the exception of an abortion

two years ago (at the sixth week), she has been well.

Physical examination at the first visit showed: abdomen very small; foetal heart inaudible; breasts contained colostrum: slight deepening of the areola, and slight enlargement of the papillæ.

The uterine measurements were as follows:

The anterior superior spinous processes 26 cm.

Crests 29 cm.

External conjugatæ 20 cm.

Right oblique diameter 24 cm.

Left " " 25 cm.

Girth of abdomen at umbilicus . . . 77.5 cm.

Girth of pelvis 80. cm.

The fundus measured 18.85 cm. above symphysis.

Patient saw her last menstrual period June 26, 1890, six months prior to present examination. In July, having missed her period, she consulted a doctor, who treated her for the return of the menstrual flow, telling her that if she was pregnant the medicine would have no effect. He gave her a powder, to be taken at one dose; also a dark liquid medicine, very bitter to the taste, of which she was to take an ounce three times daily. The powder and three doses of the liquid were taken without success.

At the fourteenth week she had a slight flow, which soon ceased. She remained well, appetite was good, and she was able to do hard work.

She entered the wards of the hospital February 4, 1891; she was then between the seventh and eighth month of pregnancy; for three weeks past she had been having pain and some discharge of blood from the vagina. She was put to bed and given an opiate. The day following admission she aborted. The mass expelled is 10 cm. long and 20 cm. in circumference. It is soft and contains about an ounce of dark-reddish matter, thin and watery. The interior of the tumor is irregular from hæmorrhage beneath the chorion. The growth is an apoplectic ovum. It resembles very much a cut in Playfair's "Obstetrics." It is of interest from the possible relation that it bears to the treatment of ectopic gestation.

Here the chorion has been retained; it has lived and grown in thickness, although the foetus has been entirely absorbed.

Admitted that the galvanic current at times will kill the fetus, may not the chorion

continue to develop? An additional reason for early operation.

A CASE OF ECLAMPSIA.

Mrs. P., aged 30 years, was admitted to the hospital April 17, 1891, as an emergency case. She was at about the end of the eighth month of pregnancy. Her past history was very imperfectly reported. She had had œdema for a month past, and three days prior to her admission had developed the first of a series of convulsions.

I found her suffering from uræmia; unconscious, general œdema; pulse and respiration accelerated.

Chloral was given by rectum without benefit. With a consultation of the staff, it was thought advisable to induce labor. The os yielded readily to the finger and fingers acting as a dilator. The membranes were ruptured and forceps applied. A dead infant was born with some difficulty. This operation did not improve the mother's condition; she still remained unconscious, and died two hours later.

TYPHOID FEVER COMPLICATING PREGNANCY.

Mrs. L. was admitted March 3, 1891. She is 27 years of age. Has been a resident of this city only a few months. For a week past I find that she has been suffering with the prodromic symptoms of typhoid fever—headache, malaria and some pain in epigastrium. On March 4, the next day after her admission, she fell in labor; the various stages were completed with the birth of a female infant weighing $7\frac{1}{4}$ pounds.

With the completion of the third stage of labor her temperature, which had been above normal, rose from 101° Fahr. to 105° Fahr.

The characteristic symptoms of typhoid fever followed—petechiæ, right iliac gurgling, tongue and stools which were unmistakable.

Involution went on uninterruptedly, although the lochia was scant. At no time was there tenderness over the uterus.

Her temperature remained high, fluctuating between 102° and 105° Fahr. On the tenth day of the puerperium, or about the beginning of the third week of the disease, a bilateral parotitis developed. This complication caused the patient much annoyance.

In the following two weeks the typhoid state became more marked. Dr. Parish kindly saw her with me.

Although freely stimulated, she became weaker, and died April 2, 1891, one month after her admission. Unfortunately, an autopsy could not be made.

While treating the wife, her husband was my patient with a well-developed attack of typhoid. Typhoid fever is not infrequently found complicating pregnancy, yet I think it is unusual to have the puerperium complicated by so grave a disease.

DISCUSSION.

DR. CHARLES P. NOBLE:

There are a number of points with reference to the paper which I think are of importance. In the first place, I feel that it is of great importance that an institution that does obstetrical work should have its wards open to medical students. This institution has unquestionably done a good work in this respect. I think that medical men in general should support the physicians of obstetrical institutions in throwing open the wards for proper medical instruction.

In reference to the rules given for the cleansing of the students' hands, I may say that I am very sceptical myself about hand-cleaning. I do not believe that it is possible to absolutely sterilize one's hands. After the most rigid cleansing, the scrapings from the hands still show germs. Recently, at the Johns Hopkins Hospital, a rigid examination of the hands, after various methods of cleansing, was made, with the uniform result that the hands are never aseptic. The best results have been obtained where there has been a thorough use of soap and water and nail-brush, which is regarded as the most important step, followed by soaking the hands in a saturated solution of permanganate of potassium and then in a saturated solution of oxalic acid. The action of the oxalic acid on permanganate of potassium causes the liberation of nascent oxygen which is the germicidal agent. The results of this method have been better than those of any other, including the use of bichloride. The earlier experiments with bichloride of mercury apparently gave better results than they should have been credited with, for the reason that bichloride inhibits the action of germs. When the bichloride is removed the germs respond to culture tests. If after the hands are treated with bichloride solution they are ex-

posed to the action of ammonium sulphide, the mercury will be precipitated, and scrapings from the hands will show the presence of germs, whereas before the mercury was neutralized the presence of germs could not be demonstrated by cultures.

The practical outcome of all this is, to my mind, that we cannot be too careful in cleaning our hands, feeling that, even after we have done the best that we can, our hands are not necessarily perfectly sterile; it is also reassuring to know that the use of soap and water is, after all, the most valuable part of the process.

I think that antiseptic obstetrics receives more blows from the general practitioner on the ground that he does not have sepsis, although he does not adopt these methods, than on any other ground. The explanation of this is found in the fact that the hands of the general practitioner are not much exposed to septic poison, and what he does come in contact with is of a comparatively innocent character; if he were brought in contact with suppuration and erysipelatous wounds, and continued the same methods of cleansing, I think that the results would be different.

Dr. Boyd, in his report, stated that when a woman fell in labor she was examined to see whether it was advisable to use prophylactic treatment for the prevention of ophthalmia in the child. In a well-organized institution this examination should be made before the woman falls in labor: it should be made on her admission. A certain proportion of pregnant women have purulent vaginitis, and I am perfectly satisfied that not only is this a cause of ophthalmia, but that it is the cause of a certain small percentage of septic cases after labor. If practitioners, when engaged to attend a woman in labor, would inquire as to the presence of irritating vaginal discharges, and, if these existed, would institute prompt and vigorous treatment, we should have fewer sore eyes and a less number of cases of so-called auto-genetic puerperal fever.

DR. JOSEPH PRICE:

I am greatly interested in this subject, and particularly in the practical educational feature of maternity work. I have always felt that it is unfortunate that all public hospitals are not used for educational work wisely. I

always aim at using confinement cases for that purpose. For a while these cases were used only for post-graduates, but they should also be available for advanced students. In public institutions the first step is the education of the directors to the necessity for this, and to convince them of the importance of using this material for educational purposes that we may have more skilled obstetricians. When I took charge of the Philadelphia Dispensary the objection to this was very great, and I had some difficulties to encounter, and had to make some explanations and enter into quite lengthy discussions of the matter before I could secure the consent of the directors. I have never seen much evil come from undergraduates attending confinements. Many of them have at the same time been engaged at outdoor surgical services of various hospitals, dressing wounds daily. They have been taught to use soap and brush freely before and after every examination. If they care to use the vaginal douche before labor and after delivery of the placenta, they are at liberty to do so. I can recall but two instances where I felt sure that the student was responsible for trouble. One was last year, where a patient died on the third day. Three out of the four, attended by the same man, had fever and were very ill. Out of 600 confinements, attended by 104 pupils, these were the only three cases of elevation of temperature. This young man was not attending cases of erysipelas or dressing wounds at the time, but there must have been something virulent about him.

Some years ago my brother had a dissecting-room over his stable, and I used it for more than a year. I attended 135 confinements in six months while dissecting. I changed my coat and vest, but wore the same shirt. I used brush and soap freely. I neither had a death nor a temperature over 100° in that experience.

In regard to erysipelas, I held one district, and at times two, for three years, and I am sure that not a month passed in which I did not report at least one case of erysipelas and sometimes as many as five, and at the same time I was attending a large number of confinement cases. Some of these cases of erysipelas occurred in men injured in iron stores—the scalp torn and stitched up, and erysipelas following and becoming phlegmonous, requiring most extensive incisions, irri-

gations and dressings. I have dressed these cases and then gone at once to a confinement, and no evil followed.

I think that at the Preston Retreat the arrangement for the admission of patients is the best that there is in any maternity of which I have knowledge. Most maternities admit patients only when in labor. I think this is unfortunate. As a rule the patients are destitute, with drunken and cruel husbands, without the bare necessities of life at their homes. With two weeks' stay in the hospital before delivery, they can have one or two soap baths weekly, be well fed, warmly clad, in a comfortable house with abundance of fresh air. Under this course they improve in condition wonderfully; they become familiar with the nurses, and the place is not strange. The early discharge of the patient is also an error. At the Retreat they remain four weeks after delivery, and leave the institution in good condition. The opportunity to make preparation for the labor through two weeks is an advantage.

On the occurrence of premonitory symptoms of labor the patient is given a soap bath and a vaginal douche, is dressed in clean clothing, and goes to a clean delivery-room, which is used only by the physician, nurse and patient. The nurse and patient make a thorough toilet before entering the room and repeat it after entering. As a rule, only one examination is made. After labor the strictest simplicity is followed. The after-birth is delivered by expression, a vaginal douche is given, and a quart or more of a 1-2000 bichloride solution is poured over the mons and thighs, and the dressing is applied. The patient is then removed to a clean bed.

We all know about the lengthy discussion in regard to the mortality of maternity hospitals, and in Dublin there was considerable talk of abolishing them. I asked a physician who was spending the past summer on the Continent to make a note of the mortality of maternities, and I find that the mortality still remains high. In this country we have not a very low mortality in our maternities. It still remains from one to three per cent. In the Retreat the mortality has been *nil*—1,000 cases without a death from any cause. I question very much whether I can keep it down to the present figure. With my knowledge of the condition of these women I can-

not see how a *nil* mortality can be maintained. In a work of five years I have had but one death, and that woman might as well have died in the street, or in the station-house, or in the patrol-wagon. She was picked up unconscious and brought in, and died in a few hours. I could not get a drachm of urine with the catheter. She was practically a dead woman on admission. I am not willing to assume responsibility for this death. This has been the only death, although a great number of cases have been admitted in a desperate condition. One patient had had sarcoma of the ankle-joint with resection at the Pennsylvania Hospital. The pulse was 140 on admission, and she was so feeble that she could scarcely give me her name. The physician who sent her told the matron that he felt sure that she would die, and that she had no one to care for her at her home.

Another case, one of placenta prævia, marked her course by a path of blood from Hamilton Street to the delivery-room. The condition seemed hopeless. Twenty minutes after admission she was in her bed in the ward under the influence of stimulants and with a living child.

Twin labors have been numerous. I have had four in the last six months. The presentations have been various. In the last twin confinement, the first child was a breech-presentation, and the second a foot-presentation.

Until recently the children born at the Retreat have been large. For a year or more they ran above eight pounds, and some as high as thirteen.

Forceps deliveries have been very few. They have, as a rule, been permitted to bear their own babies. Nature has been allowed to do her own work.

All lacerations have been repaired in the most careful manner. The deep lacerations are repaired from within out, after the manner of Emmet. If this is done carefully, there will be fewer cases of rectocele and cystocele following these accidents.

The plumbing at the Retreat is the best that I know of. Around the building, and twelve to fourteen feet distant, are brick piers, and there is a circulating atmosphere between the plumbing and the house. There is no pipe in the building. Every ward has its own bath, and there is no possibility of contamination from the plumbing. Through-

out the building the strictest simplicity is observed. There is scarcely a chair that could be dispensed with.

On taking charge of the Retreat, I determined to manage the patients as I would an ovariectomy or hysterectomy, and treat every case as a surgical case. The placental site is a huge wound, and the lacerations in the travail are all wounds. I look upon a patient after labor as a wounded woman, and treat her as such.

Another word in regard to plumbing. You can demonstrate the presence of plumbing by the temperature charts in maternity hospitals. I had fourteen months of plumbing at the Retreat, and during this time the temperatures ranged from 99° to 100° or 101° . With the tongue fairly clean, the breast sound, the nipples healthy, and the bowels acting well, I could not explain it by the condition of the patient; and had it not been for my experience in tenement-houses, I should not have understood it, and could scarcely have thought that the plumbing was at fault. In what was known as the forty-family house on Front Street, we occasionally would have elevation of temperature. A pupil would come once in a while and tell me that his patient had a slight attack of peritonitis. As a rule I could name the house. I never knew an elevation of temperature to occur even in an overcrowded house where the cesspool was in the rear of the house. But I have noted elevation of temperature in these old tenement-houses where the plumbing was all out of order and amidships. At the Retreat, as soon as the plumbing was removed from the house, the temperatures fell to 98.6° . By running back over the temperature charts you could at once fix the date of the removal of the plumbing.

The toilet of the physician and nurse is of the greatest importance. I scarcely agree that it is impossible to clean one's-self. I know that cleanliness is difficult and that it is costly. It is unfortunate that we cannot afford to change our outer clothing every day.

I have already referred to the toilet of the patient and the importance of the douche. I have repeatedly said that if in the next ten years every woman were douched with a 1-2000 bichloride solution, we should reduce the number of blind asylums five to one. I have had three ophthalmias at the Retreat. The first was delivered in the gutter as the woman

was stepping from a carriage. The second was delivered in the bath-room as she entered, and the third was delivered in the hall-way. These cases were, of course, delivered without bathing, toilet or the antepartum douche. In a city like this, where specific vices are so common, these precautions are of vital importance. They are not so necessary in rural districts. There are cases walking the streets with vaginal respiration, and all sorts of dust and dirt are admitted. The decomposing vaginal discharges are sufficient to provoke a mild and even a severe ophthalmia. I value the antepartum douches quite as much to save the eyes of infants as the lives of the mothers.

DR. NOBLE :

What does Dr. Price employ for the vaginal douche?

DR. J. PRICE :

I use the bichloride of mercury, which is the safest and the most active of all agents. Many years ago, Dr. Hinckle, of Columbia, and others, used permanganate of potassium, and allusion to this will be found in Stillé and Bache's Dispensatory. Then carbolic acid was used as a spray and as a solution until it was discovered that carbolic acid was killing patients. It was then rejected, and bichloride of mercury substituted. Now, bichloride is being condemned on the ground that it is dangerous and does not destroy germs. I consider it the most active, the most energetic and the most satisfactory solution that we can possibly use. In my experience no evil has come from its use. A vaginal douche of 1-2000 is used in the bath-room or when the woman is placed on the delivery-bed, and is repeated after the delivery of the placenta. Two douches are all that are used.

In regard to the care of the child's eyes, the vaginal douche is relied upon, and, when the face passes the perinæum, it is washed with corrosive sublimate jute from warm water. I have not had a trace of ophthalmia for years.

DR. BARTON COOKE HIRST :

I was interested to hear the rules laid down for the cleansing of students. My own are somewhat different. I make no restrictions as to what the student shall have been doing.

He may come from the dissecting-room or from operations upon the cadaver to the maternity, and yet I have not had a single case of sepsis for three years that originated in the building. I have sufficient faith in disinfection and in our method of disinfecting the student.

I have been surprised to hear so much said about the use of the vaginal douche in the treatment of pregnant and parturient women. I have always held that the antepartum douche was unnecessary, and in the three institutions with which I am connected I have never allowed in my service the use of the antepartum douche, unless I knew that the woman had gonorrhœa. This course is now justified by the clinical experience of observers in different parts of the world. Leopold has published three series of over eleven hundred cases each. In one series the vaginal douche was given before and after labor, and in that series there was seventeen per cent. of fever. But in the second series the vaginal douche was given before labor, and the vagina and even the cervical canal scrubbed out with bichloride cotton, and in that series there was twenty per cent. of fever. In the third series, he used injections neither before nor after delivery, but insisted upon the most scrupulous cleanliness on the part of the student and practitioner, and in that series there was a fraction over nine per cent. By "fever" is meant an elevation of temperature to some degree and at some time during the puerperium. I use only the post-partum injection in hospital practice, as it serves to render the woman more comfortable, and aids in cleansing the external genitals. I think that the antepartum douche is objectionable, in that it removes the vaginal mucus, and probably favors the occurrence of lacerations. In private practice I do not order a douche at all unless there is some special indication for it.

In regard to its effect in preventing inflammation of the infant's eyes, a single douche cannot sterilize a vagina that is infected with gonorrhœal poison. That has been proved in the Philadelphia Hospital. In the service of a number of gentlemen who use these injections, specific eye disease is by no means unknown. Clinical experience shows that the use of a weak solution of nitrate of silver—two per cent.—one drop being placed in

each eye, does more to prevent ophthalmia than any other preventive treatment.

DR. J. PRICE :

Dr. Hirst has referred to a collection of cases. This was a valuable collection, and it made a most beautiful demonstration of what could be done by antepartum douches. For five or ten years antedating the collection of these statistics the mortality in maternities was alarming. Antepartum injections were used freely during the period of the collection of these cases and reduced the mortality greatly—to five, to three, to one per cent. in American institutions. Mr. President,—Our discussions go out all over the country with authority, and it is therefore our duty to send out that which will do the most good and the least mischief. It is particularly on that account that I call attention to this record or collection of cases. We are in possession of definite knowledge, and it is dangerous to deviate from that which has been proved valuable. Surely it is thrice important to practise a gospel of cleanliness before as well as after labor.

DR. JOSEPH HOFFMAN :

I did not hear the paper, but from the discussion I have gathered some points to which I shall refer. I would say with reference to the use of mercury as an antiseptic that there is a more efficient preparation than the bichloride, and that is the acid tartrate. This does not coagulate albumen so freely as does the bichloride.

In regard to antiseptics before and after labor, if we are to have antiseptics at all, we ought to have it before delivery. Hence injections before birth are bound to be more efficacious than any injections afterward. I am sure if we have the woman clean before operation, and if the surgeon is clean and remains clean, there is no need for post-operative injections. Dr. Hirst's objection to antepartum injection is not a logical one. So far as statistics are concerned, we need care very little for German statistics (if such as he quotes are a standard). If Dr. Hirst had in any of the institutions with which he is connected a morbidity of twenty, seventeen or even nine per cent. of puerperal fever, he would want to resign. He would know that his work was radically wrong.

If the disinfection of the woman is thorough, one injection of the tartrate or bichloride of mercury will cleanse the vagina. I have used it in women where gonorrhœa was present, and I have yet to have a case of gonorrhœal ophthalmia in the child. The child's head and eyes are not in lasting contact with the vagina; and while there is not such cleansing as we should like to have for serious operation, yet it is perfect enough to insure against ophthalmia.

In regard to admitting unclean people to demonstrations of obstetrics, no one who is attending a case of confinement should come from a case of infectious fever. We know how virulent diphtheria is. It is in the air, and it would be impossible for us to cleanse ourselves from the poison of diphtheria without burning our clothing and scraping the body. I believe firmly that the man who permits men from the dissecting-room or from fevers to enter the room in which a woman is in childbed, risks his own reputation and the life of the patient. I do not believe that it is fair practice, and no man would subject his own wife to such a danger.

DR. EDWIN ROSENTHAL :

I have heard the remarks of the various speakers in regard to lying-in hospitals, their statistics, etc. I wish to give my experience in regard to a lying-in charity that attends the women at their homes. When the Russian refugees came to this city in 1880, I was appointed "accoucheur." During the first year I confined 147 of these poor women. Their homes were in the lowest haunts of the city, known as the "slums," comprising the Fourth, Fifth and Seventh Wards. In the six years that I was physician I confined 900 cases. In all of these cases I used the douche before and after the child was born. There were seven cases of placenta prævia, twelve cases of podalic version, sixteen cases of twins, and one case of hydrocephalus of the child, with craniotomy. I have never had a case of puerperal fever, or of phlegmasia dolens, or any trouble that I could ascribe to the puerperium. In almost all cases I used the bichloride-of-mercury tablets: in a few the biniodide was employed. I have not had a case of ophthalmia neonatorum. If this experience can add any weight whatever to the value of antepartum and post-partum douches, I desire to place it on record.

DR. M. PRICE :

I wish to say a word in regard to this furore that is passing over the country in regard to these little beasts. If I could believe for a single second that there was a shadow of truth in the teaching of these men I would quit practice, for we would be walking pest-houses, carrying the germs of disease from one patient to another. It is the chemistry of disease that we have to look into. It is the chemistry of disease that is killing our patients. We can wash off with soap and water, and the man who cannot make himself clean with soap and water should quit practice.

DR. G. BETTON MASSEY :

REPORT OF A FIBROID TUMOR, TREATED BY
ELECTRICITY WITH IMPERFECT RESULTS.

The following case has a triple right to publicity; first, it was partially reported by me as *improved* in a paper at the last meeting of the American Medical Association; secondly, it presented a clear picture of a type of this affection that responds poorly to the Apostoli treatment; and thirdly, it illustrated finally the grave responsibility that any man assumes who advises hysterectomy that is not demanded by the urgency of the conditions present. Abdominal section is talked of somewhat flippantly by my skilful friends on this floor; but to me it seems like that ancient ordeal of fire through which one of old England's queens was compelled to walk blindfolded.

To report an unsuccessful effort at conservative treatment is a duty that I do not hesitate to perform, particularly when, as in this case, the cause can be accurately assigned. Of the usual and great value of the Apostoli methods I have daily increasing experience, and during the past six months have been able to add two more cases of complete disappearance to the five already reported.

The subject of this report applied at the Howard Hospital for treatment, May 26, 1890, and was kindly referred to me by my colleague, Dr. Henry Morris, and his assistant, Dr. Moore. She gave her age as 37, and stated that she had suffered from the growth for six years. An intramural enlargement was found, wedged in the pelvis in a retroflexed position, and extending about two inches above the pubic bones. She had had a number of inflammatory attacks and suf-

fered greatly from pain, tenderness and hæmorrhage. Intrauterine applications were first essayed, but they invariably provoked severe pain and cramps, even when so mild as 30 ma. To vaginal electro-puncture she was much more tolerant, and under buried negative puncture the tenderness left her completely at times, and there was a distinct decrease in the size of the tumor and improvement in the menstruation, though in each particular the gain was easily lost by intermitting the treatment. The punctures varied in strength from 100 to 250 milliamperes. In all, ten punctures were made, extending over a period of eleven months. With the exception of the slightest one, they were all made during anaesthesia, as the patient was extremely nervous, the electrode being inserted, from a half to three-quarters of an inch, directly into a part of the tumor that presented in the posterior vault of the vagina and the applications continued three minutes. All antiseptic precautions were, of course, rigidly employed, although my present plan of asepticizing and freshly insulating all needles in the spirit flame was used only in the last instance.

In October, 1891, she complained of an acute attack of pain and stiffness, and an abscess opened on the inner aspect of the left thigh, discharging highly offensive pus. Fearing that the tumor was responsible for this, and was possibly breaking down under a septic infection, the case was referred to Dr. J. M. Baldy, as probably indicating an abdominal section. The operation, the details of which Dr. Baldy will give, showed a healthy fibroid of the uterus; but both appendages were badly diseased, the right ovary containing a cyst larger than a walnut, and the left an abscess cavity somewhat larger, which was ruptured in the effort at enucleation. This ovarian abscess was found to communicate with the sinus-tract in the thigh. The patient rallied from the operation, but unfortunately, expired three days later.

The revelations made at the operation furnished the reason for the patient's intolerance of the intrauterine treatment from the first. No mere cyst would have rendered these applications as painful as they were. The excessive tenderness in the left ovarian region of which she complained when first seen, and the cramps that followed each treatment, were evidences that the left ovary was too pro-

foundly diseased to permit of a successful electrical treatment of the fibroid. Up to the time of the actual opening of the abscess the discomfort was not greater than when she first applied for treatment, and it is significant of the harmlessness of puncture with diseased appendages as compared with intrauterine treatment that she was relieved by them time and again, and remained better for considerable periods, in spite of the purulent degeneration of a neighboring organ.

As to the abscess, nature was providing an exit for its contents at the time of the operation, and I do not doubt that had it been treated as an ordinary suppurating cavity by means of free drainage the patient would have recovered fully in time. The possibility of a septic infection of the tumor itself was, of course, the reason why I persuaded the patient to submit to an abdominal section. Vaginal incision and drainage in that direction would have been a better course, to my mind; for this would have assisted materially in clearing up the diagnosis, besides furnishing a subsequent opportunity for abdominal hysterectomy, had the fibroid itself proved to be degenerating.

In its bearings upon electrical treatment this case emphasizes the statement that I have elsewhere made, that the presence of pus anywhere in the pelvis contraindicates electrical treatment until it is evacuated. From the surgical point of view it shows the unwisdom of adding to the area of an abscess the extensive raw surfaces produced by a hysterectomy and free communication with a hitherto healthy peritoneal cavity.

This criticism of the surgical side of the case does not prevent the expression of my indebtedness to Dr. Baldy for his skilful performance of the operation, but is rather directed against the too prevalent idea that diseased conditions in the pelvis can only be reached from above.

DISCUSSION.

DR. J. PRICE :

I do not rise to criticise electricity. I would ask Dr. Massey in regard to the condition of the tube.

DR. MASSEY :

The whole thing was diseased.

DR. J. PRICE :

It is rare to find ovarian abscess with a

healthy tube. The trouble usually begins in the tube. The pavilion attachment of the tube to the ovary is usually the point of infection. This is demonstrated a most daily in my own experience. To-morrow I shall remove pus-tubes, and on one side I shall, in all probability, find the tube attached to pelvis with healthy ovary, and in the other to an ovarian abscess. Where the tube is attached to a knuckle of ileum or sigmoid, you will find a necrotic point which may require stitching of the bowel. Ovarian abscess independent of tubal disease is exceedingly rare.

Again, suppurating tubal trouble is a common complication of intrapelvic fibroid. My impression is that there is a causal relation between tubal disease and fibroids. Dr. Massey alludes to the fact that the intra-uterine applications of electricity caused pain. The simplest examination in suppurative forms of pelvic disease always causes pain. This is a diagnostic point. In intrapelvic fibroid it is exceedingly difficult to recognize tubal disease. I have repeatedly operated in cases where I thought that there was a fibroid filling the pelvic basin and found the pelvis filled with a pus-tube and ovarian abscess. Advanced forms of tubal disease are one of the complications of pelvis-bound fibroids. It is this class of cases that drives the operator to desperate measures. Keith in nine of his thirty-eight hysterectomies began the operation with the intention of removing the appendages, and finished with the Koeberle clamp. I have started out to remove the appendages to stop the growth of a small fibroid and have finished with supravaginal extraperitoneal hysterectomy. The man who attempts to do good surgery without always being prepared, and without a knowledge of supravaginal hysterectomy, is in a maze and gropes in darkness. He fails to complete his work or to relieve his patient, thus bringing disrepute upon all operations.

DR. M. PRICE :

I should like Dr. Massey to explain the manner in which electricity gets rid of these tumors. Here is a large tumor removed yesterday. In all the fibroid tumors that I have seen, I have yet to see one in which the development of the fibroid condition was equal throughout the uterus. In this case the anterior wall of the uterus is scarcely one.

eighth of an inch in thickness, while the posterior wall is involved in the fibroid growth. Does the stimulation of the electricity act upon the muscular tissue as does ergot and lessen the amount of blood and therefore the nourishment of the growth, or does the puncture destroy the tissue, which is almost cartilaginous? Does it produce such changes that the tissue is absorbed, or is it by inflammatory changes in the growth that they hope to get rid of the tumor?

Has Dr. Massey ever treated these growths by puncture through the abdominal wall as he has been credited with doing? Dr. Woodbury, at a recent meeting of the County Medical Society, said that Dr. Massey plunged an electrode through the abdominal wall into the tumor.

In this tumor, as can be seen, the peritonæum has been stripped from the lower two-thirds of the tumor. The bladder extended two inches above the cervix. There is not a particle of use in these cases of attempting hysterectomy unless the peritonæum is retracted and you make your pedicle. If you attempt to make your pedicle out of the lower part by driving your pins through it, a large portion will slough away, and the risk will be increased seventy-five per cent. Unless the tumor is bodily removed and the pedicle is made, there is certain to be a fatal termination. I should like to know how electricity is expected to do its work in these hard tumors.

DR. JOSEPH HOFFMAN:

I have a point or two in reference to diagnosis and treatment of pelvic abscess. I want to insist that the presence of a fistula with ovarian abscess should be no excuse for failure of the operation. We all know that in appendicitis, where there is the most offensive condition of affairs imaginable, and where pus exists almost free in the pelvic cavity, the rule is that recovery takes place if the case is operated upon. If there is pus in the pelvis with a track communicating with the outside—if the pelvic entrance of the track is dealt with—there should be no infection, and, in consequence, Dr. Massey's argument against operation on this account falls to the ground as an argument not justified by surgical experience.

In regard to diagnosis, last Friday I had a case where I made a diagnosis of fibroid

tumor in a woman, 47 years of age, bleeding for five years every two weeks. The case had been considered cancer of the uterus in one of the hospitals. Bimanual examination revealed only an enlarged (?) abscess. I concluded that there was a fibroid, and operated with the intention of doing hysterectomy. At the operation, I found the uterus moderately small. The head of the colon was glued to the uterus. There was a large pus-tube on the left side with a hæmatosalpinx on the right. It was impossible to tell what the condition was until one tube and ovary had been enucleated. This is a preface to treatment by electricity. If I and numerous hospital men could not make that diagnosis, I think that Dr. Massey could not have made it. If Dr. Massey had punctured such a tumor, he would have had a virulent peritonitis. In this case the bowel also was adherent, so that there would have been danger of puncturing the bowel. The uterus was small and enveloped by inflammatory adhesions. In the presence of all of these dangers, I cannot see where it is safe, or where it is sensible, or where it should be done, even if we go only the sixteenth or the twelfth of an inch, as Apostoli in his latest book advises.

DR. G. BETTON MASSEY:

I regret that Dr. Baldy has been prevented from being present by a death in his family, as I fully expected him to describe the conditions found at the operation. This is the first case in my experience where any surgical interference has followed electro-puncture. In referring to the history of the case, I dwelt too lightly on the extreme tenderness that the patient complained of in the left groin when I first saw her. She complained then of a double hernia, but, as I always examined her in the recumbent position, I am uncertain of its existence, and think that much of the tenderness referred by her to that condition was really due to the condition of the ovaries, as revealed at the operation.

How can it be possible to puncture an ovarian abscess and pass a current of 250 milliamperes without setting up a peritonitis? The electrical treatment lasted almost a year; the punctures were all alike; and all, with one exception, were followed by a relief of the symptoms. The exception was on March 4 of this year, when she had some pain, which was attributed to the fact that she walked a

mile after the puncture. This passed off in a few days.

At the operation Dr. Baldy thought it was possible that the tumor itself had not been punctured, but this I cannot admit. The tumor had a posterior projection resembling a retroflexed uterus that was immediately beneath the vaginal wall. Into this the punctures were made with great ease. It has been noted by others, I believe, that a puncture leaves no trace in a fibroid a short time after it is made.

Dr. J. Price has asked about the condition of the tube. I cannot speak positively in regard to this, because I was called away before I had an opportunity to make a thorough examination of the specimen. My impression is that it was large. The woman had considerable discharge, and I think that the husband made some admission to Dr. Baldy about infecting her.

Dr. M. Price has asked some interesting questions as to the way in which electricity acts in fibroids. The fibroid which he presented reminded me forcibly of one which I treated some years ago. The thin wall on one side shows the inadvisability of intrauterine treatment in such cases. Cases of this nature are amenable to puncture, either vaginal or abdominal. Electricity does not act by dissolving the tumor. The word "dissolving" is an unfortunate one. The dissolving of the tumor would give rise to enough hydrogen to fill a space equal to two or three city squares. So far as we know, the result is due to the effect of the electricity in altering the nutritive condition of the fibroid—the production of an electrical involution.

I have seen another tumor resembling the specimen shown. It had been treated by Dr. Whitcomb, of Greenwich, New York, but the lady, coming to Philadelphia, was placed under my care. When the treatment was first begun, the tumor extended one inch above the umbilicus. When I saw her it was an inch and a half below the umbilicus. She was then suffering with a recently-developed swelling of the right leg, which yielded to vaginal treatment of the fibroid. As the result of three months' treatment subsequently, the tumor is now represented simply by an enlarged uterus, having practically disappeared. This case was treated by intrauterine and vaginal applications, not by puncture.

And now as to abdominal puncture—I

noticed the misconception that Dr. Price indulged in concerning the remarks of Dr. Woodbury before the County Medical Society. Dr. Woodbury stated that he had passed the exploring needle in the direction of the tumor, but had been unable to puncture it on account of its hardness. The treatment subsequently was intrauterine, and not by puncture. In spite of its hardness, the growth was reduced between one-third and two-thirds in size. I conceive that the reduction was due to the absorption of non-mineral matters.

The case of Dr. Hoffman was, of course, an exceptional one. Vaginal puncture in such a case would undoubtedly have induced a virulent peritonitis. So in the case I have reported this evening: if I had punctured the abscess, I would have had a violent peritonitis. These exceptional cases should make us careful in regard to the introduction of needles into abdominal tumors.

It is only lately that I have taken up abdominal puncture. I have several cases now under treatment in which I have introduced insulated Hagedorn needles an inch and a half into the tumor. I use these because they have a slightly cutting edge. The surface is chilled, and three or four needles introduced at a time. They are used only in cases where the fibroid is directly beneath the abdominal wall. I have seen no bad effects from this treatment, and with careful asepsis I conceive that there should be none.

DR. J. PRICE presented

SPECIMENS FROM A CASE OF HYSTERECTOMY.

DISCUSSION.

DR. G. BETTON MASSEY:

There are certain things about the statements of surgeons that I cannot reconcile. They speak of the removal of these tumors as exceedingly easy, urging an immediate operation, and then let fall something about a steep hill to be climbed by those who operate. If we heard more of this wear and tear on operators, the true nature of operations and their results would be better understood.

Electricians do not base their statements on two or three cases, or on the disappearance or shrinkage of fibroids at the menopause. In the last two weeks I have seen at least five old cases, not now under treatment, in which

the tumor has diminished from one-third to almost complete disappearance, and every one of these patients is still menstruating. One of these was an early case treated by me at the Howard Hospital; for over a year she has menstruated normally, though subject to continuous flooding before treatment, and the tumor remains at the small size to which it was reduced. Another case, just seen at my office, presents even greater reduction, while still menstruating regularly. This case was sent by Dr. Duer some time ago, and at the termination of the treatment, some three months ago, neither he nor I could see much

change in the tumor. The other day she came in, and I found that during the interval it had almost disappeared.

I do not consider electricity the only remedy for fibroid tumors; but I have had sufficient results with it to make me say that if it is properly used, in a large proportion of cases, the desperate measures urged here will not be resorted to. I have recently been able to add two more cases of complete disappearance to the five reported at the American Medical Association in May last, besides a larger additional number of reductions in size.

J. M. BALDY, *Secretary*.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

ORIGINAL COMMUNICATIONS.

The True and False Palsies of Childhood Compared.

BY J. MADISON TAYLOR,

Assistant Physician to Children's Hospital, Philadelphia ; Instructor in Children's Diseases, Philadelphia Polyclinic ; Assistant Physician to Infirmary for Nervous Diseases, etc.

A CLINICAL LECTURE DELIVERED AT THE CHILDREN'S HOSPITAL,
PHILADELPHIA.

GENTLEMEN : I feel that a practical demonstration of the various palsies of childhood would be instructive to you. My dispensary affords an admirable variety of the commoner forms of palsy as seen in childhood, and among these some of the rarer ones. I propose showing you to-day, and briefly relating the histories, of several cases of true cerebral palsy, and also of the so-called essential paralyzes of childhood, or those of the spinal type. Then I shall show you a very interesting group of children from the same family, exhibiting the

false palsy of rickets. I might also exhibit several instances of recovery from reflex paralysis due to peripheral irritation, some of which you have already seen. These are rarely to be clearly diagnosed except after treatment. Diphtheritic paralysis is, unfortunately, common, and I have one case of this among those at your disposal to-day.

Many of the palsies of later life occur, of course, in children, though the causal forces often differ. Also the effects left by causes competent to produce paresis in the very young pass

much more completely away. It is quite possible that this factor is not sufficiently appreciated when estimating the virulence of certain kinds of lesions, as from intracranial pressure and congestive states. Many of these may leave no apparent trace. Those evidences which remain from the lesser degrees of damage are, in cerebral palsies, more commonly spastic states and contractures. Often this last is the merest stiffening of a limb, with inaccuracies of co-ordination, but without marked defects of development. In the spinal palsies, where the lesion is very limited, the limb may regain very fair motion, but inevitably fails to mature symmetrically with its fellow. In out-patient clinics it is common to see instances of curious evanescent disturbances of motion, the nature of which may be only conjectured. That these pass away with seeming completeness is familiarly known. It is of the utmost value to keep touch of these cases and learn of their subsequent progress. For instance, I saw a couple of years ago a baby of about three weeks old palsied completely in both arms. The Italian mother could give no history but its age. The condition was apparent. Assuming syphilis, inoculations were ordered, and in two weeks motility was fairly re-established, and the health otherwise much improved. Thereupon the case passed from view. Fortunately, and quite by accident, about a year later, I saw this little one, and while there is evidently syphilis present, there seems no trace of the palsy in the size or activity of the limbs.

The motor paths may be divided, according to Osler, into an upper cortico-spinal segment, extending

from the cells of the cortex to the gray matter of the cord and a lower spino-muscular part extending from the ganglia of the anterior horns to the motor end plates.

The general features which divide these palsies from each other are, for the upper segment, when the lesion is cortico-spinal, anywhere from the motor cells of the cerebrum to the gray matter of the cord, to be seen, paralysis with spasm or disordered movements, exaggerated reflexes, neither rapid nor extreme wasting, and normal electrical reaction. When the lower portion of the motor path is affected, as in the common infantile or polio-myelitis anterior, we have a combination of paralysis with rapid wasting, early loss of reflexes, absence of rigidity and marked changes in the electrical reactions.

J. M. W., aged 10. This is a boy showing a perfectly typical instance of simple cerebral palsy. There are some interesting features in the case which will bear narration, but in the main it differs little from so many similar ones you will unquestionably encounter that we may take it as a type of its class. The parents of this lad were healthy, and are even now and here on evidence. At his birth the labor was slow, instruments were used, and it is reasonable to assume that there was undue pressure exercised. Convulsions set in and lasted constantly for forty-eight hours; there was, however, no other fit until a little less than a year ago. He seemed perfectly well after this first trouble; had scarlet fever at three years of age, but, so far as I can make out, there occurred no other disease. At the age of eight he had a severe fall, after which he was exceedingly

pale, but did not quite faint. A year later, at the age of nine, there was another painful fall, details not known, but was not much hurt. However, soon after this he had the first of the serious fits which have continued to recur until the present. As this convulsive feature is one of the most important of the results from cerebral palsy, I will describe it in some detail. In this first seizure he stood rigid, walked stiffly across the floor to a lounge, was unable to speak for five minutes, his head was twisted to the left strongly, and a curious fact was observed: if it were promptly pulled back again, as his parents then did, it caused the fit to cease. Following this, every second or third day, a fit occurred, lasting two or three minutes, very similar in its general features, and always with the head strongly drawn to the left as before. The intervals between these fits lengthened, but they themselves became more severe in character, accompanied by some frothing at the mouth, and almost always followed by sleep. There is the clear evidence of cerebral irritation in the motor areas of the cortex on the right side. You see his knee-jerk on the right side shows great exaggeration, also ankle clonus; upon the left the clonus is absent, although it might be expected. His station, which I beg you to observe, is taken thus: standing with the feet closed together there is a slight sway in excess of the normal. When I bid him shut his eyes, immediately there is a rush anteriorly and to the left. This sway in disorders of motility it is important to measure, and is an index of progress, good or bad. The gait of this lad is so markedly spastic that

he is uncertain of his legs, and to protect himself he makes quick steps, so it may be called a run rather than a walk. This boy has a sister, as I learn, whose case is interesting to put on record with his. This child also was born with the aid of instruments. There was no apparent damage whatever to the skull, and the next morning convulsions set in and continued for three days almost constantly. The face became livid and blue, but the condition passed. The child lived as a healthy baby, apparently, until the age of fifteen months, had measles, fell into convulsions for four days, and finally died. These cases are interesting to put alongside of each other, because they show how, in certain families, the tendency to convulsions becomes increased, and a little thing precipitates it. The effect of instrumental interference during labor is thought to be very grave as a causal agent in cerebral damage, and I am engaged in collecting data on this subject now; but there are many notable instances of seemingly immense crushing thus, and yet with very small resultant damage. This next child I show you is also one of cerebral palsy.

G. S., aged 6 years. Labor normal, no illness until three years of age, when suddenly a fit occurred, which seemed to be the result of acute indigestion; the child vomited, which was followed by other effects of acute indigestion. In this first fit, all that we can learn is that the eyes were set, the jaws became rigid, and a condition of tonic spasm was maintained for fifteen minutes. It was not followed by sleep, and seemingly no motor trouble followed. The child, however, was always known to be ex-

ceedingly irritable and nervous, with screaming spells chiefly at night. At five years of age, while in all respects, apparently, most robust, the boy had a fall, the back being the only part which seemed injured. Next day, complaining of pain in the back, he played about as usual, but exhibited a tendency to lie down rather frequently, and lost appetite. For two or three days he was observed to drag the right leg in walking. This grew slowly worse, though the hand did not seem to be affected, and in a month or so the speech began slowly to become thickened. The child, as you see, presents every appearance of good nutrition, though the circulation is certainly poor, hands and feet remaining pretty constantly cold. He is very emotional; the more graphic symptoms, however, are the disordered condition of his hands and feet. When the disturbance of co-ordination came on, we cannot clearly make out, but now he can scarcely stand. His toes are strongly turned in. There is the common form of contracture in the right ankle and knee. In both legs there is excessive knee-jerk as well as ankle clonus; there appears to be no contracture of the hands or arms.

The elbow jerk of both these cases is plainly exaggerated. The electrical reactions by Faradism are shown to be normal.

The temperature of skin on extremities is normal.

These two cases will serve to illustrate sufficiently the type of cerebral palsies. Now I will show you a boy of 8 years, in whom you will be puzzled to find any special disorder of motion, and yet he had the true essential palsy of childhood, as it has been

sonorously misnamed, and has made pretty thorough recovery from it. This child I saw when only 3 years old, and inasmuch as it was one of those rare instances where one is enabled to see the very beginning of this disorder, I regard it as very interesting. The mother brought the child to me at the dispensary, with this history: For about twenty-four hours he had been slightly indisposed; once during the day had vomited; at night seemed slightly feverish; and inasmuch as the dispensary was very handy, she brought him to me the next day for advice. I took occasion, for the day was a warm one, to remark that his hands and feet, worn bare, were distinctly cold, and the child seemed limp far in excess of the circumstances to warrant. The next day I fortunately saw the child again. The mother reported that during the night he again became feverish about the head and body, but that the extremities, as before, were distinctly cool, and that he could not walk or raise his right hand. In short, he was paralyzed on one side completely, or, at least, was just able to move both hand and arm. I immediately had it put at absolute rest, a diet solely of milk, its limbs thoroughly rubbed twice daily, but very gently, with a stimulating liniment, gave it internally a little iodide of potash; and slowly, but steadily, the little one got better until at the end of about three weeks Faradic irritability returned, and thereafter the progress was uninterrupted. I saw him about a year afterward, and it was difficult to determine, by any ordinary test, which side had been affected. This boy is now, as you see, well developed, so far as can be demonstrated. Very likely, in a

year or two more, it may be observed that the limbs on the affected side do not increase in size symmetrically with the others. However, this is not certain. Palsies so brief as this may pass and leave no sign. The original lesion may fully subside.

W. G., æt. 2 years and 5 months. This little fellow runs about nimbly enough, but a slight limp may be noticed. Just five months ago he had been perfectly well. I can find no fault in his personal or family history, and his mother is unusually intelligent and observing. On the evening of what had seemed for him a good day, he suddenly vomited; at night tossed restlessly. The bowels had been rather confined for several days, and the mother gave a laxative. Next day he seemed well, running about, but not alertly. At 3 o'clock in the afternoon the mother observed that on making an effort to raise his hands to her neck he failed, yet repeatedly striving. After this the right arm and leg were observed to be weak for two weeks, then rapidly regained tone, except in the right shoulder:

This right shoulder now seems shrunk, though the forearm and hand are apparently right. The muscles of the shoulder, especially deltoid, barely respond to a strong Faradic current; those of the forearm react well; those of the leg are right also. It is common in spinal palsies for the leg to recover more completely than the arm. The right leg here is just a trifle shorter than its fellow.

PSEUDO-PALSY OF RICKETS.

These three children, which I have grouped together, are all of the same parentage, and illustrate beautifully

the false palsies of rickets and several other interesting points in the ætiology of that disease. Two of these are brought because, being old enough, they do not make any reasonable attempt at walking; they are active, bright little things, and have a most amusing way of propelling themselves along the floor by means of their hands thrust down on either side of them, sitting, and giving their bodies, with the legs curled under them, a forward push; they then put both hands forward and spring their bodies through the arch of their arms, and so on, making really very good speed. They all show the superficial features of rickets: a flattened head and face, slightly curved long bones, cup-shaped thoraces, beaded ribs, etc. It will be interesting to review for a moment the history of the family. I have examined the grandmother and the parents, who are people in comfortable circumstances and thoroughly well nourished. The family has been a very prolific one, usually six or seven children to each of them, and yet it is a well-attested fact that a score or more of these children were known to slide along on the floor, just as these do, until three or four years of age. Then they gradually attained the use of their legs. They are all rather small, but well formed and active. In one I demonstrate to you a peculiar state of the flat bones of the head, known as *cranio-tabes*. A firm pressure on the skull with the thumb causes the surface to spring in like a thin tin-plate. This at once recovers itself. No pain is caused by this.

These false palsies of rickets are similar to pressure palsies elsewhere.

The pathology must be assumed, inasmuch as since these nearly always get well, no autopsies are possible. The condition is certainly an uncommon one, at least in this country, and is very rarely spoken of in literature. It has a very marked degree of importance, however, because it is extremely important to recognize the nature of such disturbance at once, and in this there should be no difficulty. There would, of course, be none of the ordinary symptoms of a true palsy present, and the knee-jerks should be normal, although you must bear in mind that the knee-jerk in young children is subject not only to individual but accidental variation. I have seen in apparently perfectly healthy children, who were being examined in routine, entire absence of knee-jerk, and in the same child, at another time, a very marked one. Sometimes, however, the knee-jerk is entirely absent in children who apparently enjoy perfect health.

Another rachitic symptom occurring among these children is laryngismus stridulus—a source of alarm to parents in the night watches—this from irregular action of the glottis.

Another very common form of reflex palsy, of which probably more was talked about than is now considered worth while, is that from the ad-

herent prepuce in boys. Certainly there is a great deal of irritation due to this very common disturbance, and any careful clinician will examine the penis of boys on the smallest suspicion of there being anything wrong. I must say that I have never seen a case of palsy due solely to this cause, and I believe it to be exceedingly rare. It is my custom, at this dispensary, to promptly relieve adherent prepuces whenever recognized, and I find no difficulty whatever, in most instances, in doing so by mere stripping and stretching. This should be carefully done, sometimes in two or three sittings, the parts well lubricated, and always avoiding undue pain and injury. Thus many reflex nervous symptoms are relieved. There are many, many other sources of reflex irritation capable of causing varying forms of paresis, such as nasal irritation from foreign bodies, or hypertrophic states of mucous membrane. These commonly produce extraordinary psychical phenomena; but in estimating the force of this factor of reflex irritation, bear in mind the fact that an element of hysteria is a very common collateral cause, and if one must be exact as to the origin of any of these difficulties, that must be eliminated before a clear estimate may be had.

Acute Chorea, with Fatal Endocarditis.

BY B. FRANKLIN STAHL, M.D.,

Chief of Medical Clinics at St. Mary's and St. Agnes' Hospitals, Instructor in Physical Diagnosis, University of Pennsylvania.

THE infrequency of death from chorea or its complications often gives a false and unhappy security. The following illustrates a case in point, and shows a rapid development of symptoms and fatal termination:

C. M., female, aged 6. Family history free from any neurotic tendency or other discoverable predisposition to disease. Personal history: Had the ordinary diseases of childhood, including whooping-cough. While the patient was always regarded as a perfectly healthy child, yet she was not so hardy as children usually are at that age. As expressed by the family, she was regarded as "a soft child." For a week or ten days before seeking medical advice, she had complained of her legs and feet being asleep, and would walk to get relief, the "numb feelings" seeming to be confined to the lower extremities and not referred to the articulations.

At this time she would sit with bowed head, and when her attention was attracted would raise the eyes without raising the head. On May 10, 1891, she complained of severe pain "in the stomach," and Dr. J. H. Grove was consulted. Dr. Grove informs me that no heart murmur existed at that or a subsequent visit a week later, and that the gastric and hepatic symptoms were most prominent and received treatment. On May 19 I was called to visit her, and found her pale, moderate fever (101°),

pulse 130, small and somewhat irregular in rhythm, tongue coated, stomach irritable, frequent vomiting, bowels constipated, some cough. Physical examination of lungs showed small, moist râles over both lungs, with no impairment of resonance. Auscultation of the heart discovered a presystolic and systolic mitral murmur, without increase in cardiac area. There was considerable dyspnoea. Three days later there developed a mild chorea, most marked on the right side. This condition increased in severity, and in a week had reached its greatest severity and rapidly subsided. The dyspnoea meanwhile increased, and the pain about the heart became more severe. The stomach could hardly be induced to retain nutriment. By the twelfth day the choreic movements were no longer present, the dyspnoea now amounted to orthopnoea, the murmur had not changed in character, there was a puffiness about the extremities, and the lungs were more congested. The child died the twentieth day from my first visit of heart failure due to dilatation. No autopsy allowed. It requires but a word as to the treatment pursued; it was largely supporting, and the subsidence of the choreic movements was under bromide and arsenic. It seems safe to assume, in the light of the later history of the case, that the early numb feelings in the extremities, relieved by motion, were of rheumatic

origin, since rheumatism in early life is more frequently recognized by variable temperature, vague pains, acid sweats and urine than by any local articular manifestation.

Additional weight is given the assumption by the speedy development of acute endocarditis and then choreic movements. As to the pathology of chorea, there is little that is definitely known, but there seem to be three classes of cases: (1) Those dependent upon cerebral irritation, principally in the region of the optic thalamus and corpus striatum, and regarded

by Hulings-Jackson, Broadbent and others as of embolic origin. (2) Those cases where it is of spinal origin. (3) A class of cases purely functional—a neurosis, without demonstrable lesion. To which class does this patient belong? Here was a history of rheumatism, not articular, it is true, nor is it frequent to have joint involvement at so early an age. Then developed an organic murmur of the mitral valve, and the differential points between this and a hæmic or functional murmur will be seen by the subjoined table:

ORGANIC.

1. Fever.
2. Often pain.
3. Rhythm of pulse affected.
4. Constant in quality.
5. Constantly present.
6. Independent of anæmia.
7. Heard best over valve areas.
8. Transmitted with current.

INORGANIC.

1. No fever.
2. No pain referred to heart.
3. Pulse regular.
4. Variable in quality.
5. Often paroxysmal and disappears with disease.
6. Often anæmic.
7. Variable in position.
8. Not transmitted.

Closely following the development of these murmurs were the choreic movements. These, occurring in a child who had never seen a patient with chorea, exclude imitation, and

argue this, in the absence of symptoms pointing to spinal origin, to have been a cerebral chorea associated with, and perhaps dependent upon, a fibrinous endocarditis.

SOCIETY PROCEEDINGS.

New York Academy of Medicine—Section in Pædiatrics.

DR. AUGUSTUS CAILLÉ, CHAIRMAN.

Meeting of November 12, 1891.

THE meeting was opened by a demonstration of Soxhlet's modified milk-sterilizer, by Dr. Louis Fischer. While abroad last summer, Dr. Fischer

visited a number of milk-sterilizing institutions, which are becoming very common in the cities of Germany. At these institutions, which

are usually connected with some hospital or dispensary, milk is sterilized in large quantities, and sold to the people at a cost but little above that of ordinary milk. The method universally employed is that of Soxhlet. The recent modifications are very simple, but have added greatly to the value of the process. The change of greatest importance is in the stopper. The old Soxhlet stopper, consisting of a rubber plug with a central opening through which a glass rod was passed, was unsatisfactory. It is replaced by a simple disk of red rubber about three-sixteenths of an inch thick, and sufficiently soft to yield under pressure. The neck of the bottle is modified in shape, being somewhat hour-glass in form. The mouth, therefore, is broadly funnel-shaped, the edge of the glass being thick and absolutely level. When ready for the sterilizer, the rubber disk is placed over the mouth of the bottle, and is held in position by a light tin shield. Steam from the bottle readily escapes under the disk, but when cooling begins the disk is drawn tightly down upon the thick level surface of the mouth, and held securely in place by the atmospheric pressure, a vacuum being formed in the bottle. The disk is partially supported by the slanting sides of the funnel-shaped neck, and is held in position very securely. The process of corking becomes, therefore, almost automatic. When cool, if the bottle is turned and tapped upon the bottom, a peculiar click is produced, if the vacuum is complete. This is of great value, for it is positive evidence of a perfect vacuum, and hence of perfect sterilization. The stopper, when removed, cannot be re-

placed without re-sterilizing. Milk, in which the stoppers are securely in position, keeps readily four months, and fails to show micro-organisms. Other changes have been made in the sterilizer, but are of minor importance. The new bottles are being imported, and will, no doubt, soon be made in this country.

The Chairman, to whom the introduction of the Soxhlet method in this country is chiefly due, remarked that the chief difficulty in preparing the milk arose from the stopper. It had been quite generally discarded, and a plain cork or the cotton plug substituted. Both of these have serious drawbacks, which are obviated by the new stopper.

Dr. Scharlan had also seen the modified apparatus in use in Germany, and spoke highly in its favor.

Dr. Koplik, who has had considerable experience in preparing sterilized milk on a large scale for dispensary use, believed that the improvements would remove half the labor of the process, and would place sterilized milk within reach of a greatly increased number of poor people.

Dr. W. L. Carr read a report of the meeting of the American Pædiatric Society, which was held in connection with the Medical Congress at Washington, in September. He spoke especially of the active interest taken in the society by members of the Academy of Medicine, and the large amount of scientific work done by New York men, most of whom are members of the Pædiatric Section. He referred also to the address of Dr. Rotch regarding the propriety and importance of considering pædiatrics a special department of medicine, believing that the time has come when

a worker in this field may justly claim the dignity of a specialist.

Dr. W. A. Porter read a paper on the "Physiological Importance of the Proximate Principles and their Practical Utility in the Food Stuffs and in the Nutritive Processes of the System." It was a paper showing great scientific research, but as it dealt almost exclusively with the elaborate and complex chemical processes of the body, a brief abstract cannot be satisfactorily made. Of the proximate principles he placed water as first and most important, and referred to its various chemical and physiological actions. Common salt is also an element of the greatest physiological importance, and is frequently lacking in the food of infants. Children, and especially infants under one year, have but little fat-digesting power, and are frequently overfed on starch and fats. The blood can carry but a certain amount of oxygen, and, hence, but a certain quantity of fats and starches can be oxidized. If this amount is exceeded the unoxidized portion is sure to cause trouble. The author would decrease, therefore, the usual amount of starch and fat in the food and increase the proteids, even in lithæmia. Codliver oil was condemned as poisonous to many patients. An elaborate study of the physiology of the kidney was given, designed to show that certain processes of assimilation and excretion are carried on in the uriniferous tubules rather than in other parts of the body as is commonly taught.

Dr. W. A. Thomson said that a study of proximate principles is of very great importance, and will lead to results of the greatest practical utility. Knowledge thus obtained

must be taken, however, in connection with known clinical facts, or serious errors may be made. As the melting up and exact weighing of the various metals composing a watch would tell us nothing of its structure and action, so a simple chemical study of the body tells but little of the action of its various tissues. The chemist, for example, can detect no difference between vegetable and animal albumen, but their action as food is very different. The tissues of the body are very complex in composition, and conclusions drawn from an analysis of their constituent elements are apt to be erroneous. He joined issue with the reader of the paper in his depreciation of saccharine and fat elements in the food and his elevation of proteids. We may learn much from a study of breast milk, which is the typically perfect food of the human subject. It contains comparatively little caseine, far less than cows' milk, because the infant is not required to use its muscles as is the young of the cow. Of sugar and fat, however, it contains a large proportion. In older children fat is especially required. Between the ages of five and ten years the brain undergoes a wonderful growth, reaching almost its full adult size. At no other period of life is its functional activity so great. What food does a child at this age need? Not food for tissue growth alone, but for brain growth. The food which the brain and nervous system require above all else is fat. No other element is so rapidly destroyed during brain activity. Hence we see children at this age taking fats well. They take codliver oil with relish, which is probably evidence that the system demands it.

It is a frequent experience that foods chemically perfect are unsatisfactory. This is sometimes due to the fact that the important matter of palatability is disregarded. An unpalatable food, no matter how perfect theoretically, will not be successful.

Of the various elements composing the food, the speaker considered water as the most important. Its great value lies in its action as a promoter of oxidation and as a remover of effete matter. The secret of success of the various mineral waters lies mainly in the large quantity of water ingested. One reason for the frequency of lithæmia in children is probably the small amount of water they receive. The breast milk does not supply a sufficient quantity to dissolve and carry away the imperfectly oxidized materials. Water should be given freely to children, and especially to infants who are inclined to pass urates.

Among the proximate principles, salt is a very important one. Among other properties it acts as the great antiseptic of the body. It increases tissue waste, not as a stimulant to the circulation, but as an oxidizer. The natural mineral waters which have proved most effectual in their

action on the body, and have longest stood the test of time, are those which contain a large proportion of common salt and resemble most closely in chemical composition the serum of the blood.

In considering the proximate principles of a child's diet in regard to relative importance, the speaker placed water, with the salts it commonly contains, first, followed by sugar, fats and proteids last.

Dr. Zeh referred to the great importance of a sufficient supply of water in the child's diet. To insure success the food must be prescribed with as great care as the medicine.

Dr. Pruittnight agreed with the other speakers as to the great importance of water. The stain on the napkin quickly disappears under the administration of clear water. The child who cries and shows signs of pain, when passing urine, will be relieved by the same treatment. The so-called scalding urine of infants and older children disappears under the free administration of simple water from the hydrant. He believed, also, in the importance of salt, and said that it should be added to the infant's food daily.

ABSTRACTS FROM CURRENT LITERATURE.

Strophulus Infantum.

Archiv für Kinderheilkunde, vol. xiii, No. 3, 1891.

ERNST GEBERT has written a most exhaustive article on this subject. He considers that strophulus infantum is, next to eczema, the most com-

mon skin disease of the infant, and that it is characterized by the appearance of lentil-sized, bright-red pustules, which often become confluent,

and are usually situated on the trunk and nates. The eruption appears at night, after the child has become warm in bed, and is followed by itching so severe in character that the sleep of the child is often disturbed. The itching disappears in the daytime only to reappear at night, with the occurrence of a new crop of the pustules. The disease is of a chronic but self-limited character, and generally occurs not earlier than the third month or later than the second or third year. It has been variously described under the names of strophulus, lichen strophulus, lichen urticatus, urticaria papulosa, urticaria vesiculosa, urticaria infantilis, feux de dents, lichen prurigo and prurigo infantilis. It is usually a symptomatic affection, and, as the children are often anæmic, can be best treated by means of the various preparations of iron, as

the liquor ferri albuminati, or, in younger children, by the syr. ferri iodid. Attention must be paid to the diet, and there must be an opportunity of inhaling plenty of fresh air. The internal administration of arsenic, as well as ergotin and ichthyol, has not proved beneficial in the author's hands, though Unna praises highly the latter preparation. For the itching and the consequent restless sleep, antipyrin, in small doses, is recommended. Few coverings should be allowed the child at night, and in the daytime it should be dressed coolly. Applications of weak acetic-acid solutions, or if the strophulus be complicated with eczema, a 3-5 per cent. salve of naphthol zinc may be applied to the skin at night. Bathing may have to be stopped for weeks, and the child simply cleansed with a wash-rag and lukewarm water.

Resorcin in Whooping-cough.

Andeer—Lancet, Cincinnati Med. Journal.

THIS remedy seems to be gaining ground in the treatment of pertussis. In a late number of the London *Lancet*, it is stated that Dr. Justus Andeer, who had previously written in recommendation of the employment of resorcin in whooping-cough, has recently published some fresh cases illustrating, as he believes, the advantage of this method of treatment. One of the patients was his own child, a little girl of 7 years of age, who, during an epidemic of measles and whooping-cough, was attacked by the catarrhal form of the latter affection and suffered severely for a week, notwithstanding a change of climate. He then prescribed an ounce of a two

per cent. solution of resorcin four times a day, part of which solution the child was to gargle, and part of which she was to take. This very soon began to show signs affecting the course of the disease, for on the second day the fits of coughing very perceptibly diminished, and in eight or ten days the child was quite free from coughing. Five other children, who had been unsuccessfully treated for some time, immediately began to improve under the resorcin treatment. In a case of a baby of 6 months, a sweetened solution of the strength of $\frac{1}{2}$ per cent. was given by means of a feeding-bottle and answered admirably.

A New Anthelmintic, Santoninoxyme.

Coppola—Abstract in *La Union Médicale*, March 26, 1891.

COPPOLA thinks that he has discovered in santoninoxyme, a derivative of santonine, a safe and reliable substitute for this favorite anthelmintic. It was found that animals in which epileptiform convulsions were produced by santonine were unaffected by even large doses of san-

toninoxyme. Its therapeutic action is sure and certain, and its administration is not followed by any secondary disagreeable phenomena. Santoninoxyme is employed in the same manner as santonine, with the exception that the dose is three times as large.

Galega as a Galactagogue.

Carron de la Carrière—*Revue obstétricale et gynécologique*, February and March, 1891.

CARRON DE LA CARRIÈRE wishes to call renewed attention to galega as a galactagogue. He found from numerous experiments that the milk of the mother increased in quantity without any diminution of the quality, and that the children increased rapidly in weight. The aqueous extract is pre-

ferred, and can be administered in doses of 15 to 30 grains, three or four times a day.

Galega officinalis, galega apolinea and galega tephrosia are the constituents of the galactagogue, nutrolactis.

Epilepsy Following Revaccination.

La Gazette Médicale de Montréal, March, 1891.

J. ALTHAUS (*Archives de Neurologie*) cites a case in which revaccination in a healthy youth of 19 caused attacks of true epilepsy. Great stress is laid upon the fact that the family and personal histories of the patient were most excellent. In the commencement of June, 1888, he was revaccinated, having been previously successfully vaccinated when a baby. A week later there occurred a pustular eruption, severe lymphangitis and swelling in the right knee and tibiotarsal articulation. Emaciation set in, and at the end of the month he

had his first attack of epilepsy. These seizures were attended with all the classical symptoms of that disease, and were of very frequent occurrence. In the month of May, 1889, he remained two months in Regent's Park Hospital, at London, where the attacks were first lessened and finally cured by the use of bromide of potassium, arsenic and hyoscyamine. Althaus has followed the subsequent history of this patient, and states that there has been no return of the attacks.

Upon the Employment of Exalgin (Methylacetanilid) in Infantile Therapeutics.

Bulletin Général de Thérapeutique, May 30, 1891.

MONCORVO has for the last several years studied the different derivatives of the aromatic series as soon as they have appeared. It is to his researches that we are indebted for the ascertaining of the hæmostatic value of antipyrin and thallin. From a previous critical study of the analgesics, antipyrin, thallin, acetanilid, phenacetin and pyrocin, the author considered that we had the most suitable analgesic for children in antipyrin; but, on account of the remarkable activity of small doses of exalgin, the palm must now be given, all things being equal, to the drug under consideration. From experiments on guinea-pigs it was shown that exalgin possesses no hæmostatic properties whatever. This drug was given to twenty-one children, varying in age from one and a half years to twelve years, and in all the cases it was employed to relieve pain. Moncorvo states that the results surpassed his expectation. In no instance was there a failure, and the drug was always well borne, and there were no untoward effects, not even buzzing of the ears, as has been observed in certain cases where this drug has been administered to adults. The cases in which exalgin was used were neuralgia, migraine, otalgia, odontalgia, gastralgia, hepatalgia, dry pleurisy, arthralgia, otitis, torticollis, Pott's disease, lymphangitis,

and præcordial pain. Exalgin was administered either in substance or in solution in wine or alcohol, or in cachettes. As a nervine in one case of chorea, favorable results were obtained. Moncorvo ends his paper with the following conclusion:

The extreme activity of methylacetanilid, or exalgin, as an analgesic has been demonstrated without exception in twenty-one children, varying in age from one to twelve years, and suffering from various painful affections. In all these children the medicine has always been well tolerated, and no accidents have been observed. Exalgin was first given in doses of 5 cgrm. (gr. $\frac{3}{4}$) in a day, and then increased progressively to 30 cgrm. (gr. $4\frac{1}{2}$). Possessing an acceptable taste, exalgin was able to be administered to certain of the patients in substance, being applied directly to the base of the tongue, or in cachettes. In certain others it was given dissolved in water to which wine or alcohol had been added. The facts stated in this work justify the evidence of the introduction of this new agent into infantile therapeutics as an analgesic. This first trial of the employment of exalgin in the treatment of chorea was favorable, and shows that this drug should also be considered as a nervine.

BOOKS RECEIVED.

MEDICAL DIAGNOSIS. By Oswald Vierordt. Translated by F. H. Stuart. Philadelphia: W. B. Saunders, 1891.

Dr. Stuart's translation of this valuable work will certainly be appreciated by every worker in clinical medicine. The book begins with an introduction describing the method of obtaining the prior history of a case, followed by an able chapter on the "Examination of Patients." The general examination is next described, including a study of the psychical condition, the position, the structure of the body and nutrition, the skin and temperature. The respiratory, circulatory, digestive and urinary apparatuses and the nervous system are each in turn exhaustively studied. An appendix follows in which the method of using the laryngoscope and ophthalmoscope in diagnosis, and their value, are clearly set forth. The appendix also contains a chapter upon bacteria, which come under consideration in the diagnosis of internal diseases. The book is amply indexed and freely illustrated. We notice several words incorrectly spelled and errors in translation which a future edition should correct. The work certainly deserved translation into English, and will doubtless prove a valuable addition to the literature of scientific medicine.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS. By H. A. Hare, M.D. Second edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1891.

In this new edition the author has introduced the discussion of a number of new drugs, and has added the latest information regarding the more familiar ones. Description of the rest cure, the use of suspension, and additional formulæ have been inserted. The arrangement of the book—drugs and their physiological action, followed by the more common diseases and their therapeutic management, each in alphabetical order—is certainly convenient for reference, and increases the usefulness of the book. The author's well-known work in experimental therapeutics warrants the soundness of his conclusions on physiological action, and these principles as applied to the treatment of disease are clearly demonstrated. Dr. Hare's book has been and will be a success, and students and physicians who use the book as one of reference will certainly be pleased with it.

ESSENTIALS OF BACTERIOLOGY. Being a concise and systematic introduction to the study of micro-organisms for the use of students and practitioners. By M. V. Ball, M.D. With seventy-seven illustrations, some in colors. Philadelphia: W. B. Saunders, 1891.

ESSENTIALS OF NERVOUS DISEASES AND INSANITY. Their Symptoms and Treatment. A manual for students and practitioners. By John C. Shaw, M.D. Forty-eight original illustrations. Philadelphia: W. B. Saunders, 1891.

Pædiatric Therapeutics.

CAPILLARY BRONCHITIS.

Dembitz recommends apomorphine as an expectorant for infants, instead of ipecac. His formula of administration is:

R. Apomorphini muriat., gr. $\frac{1}{6}$ to $\frac{1}{2}$.
 Aquæ destil., f $\frac{3}{4}$ iv.
 Acid. hydrochlorat., gtt. v.
 Syrup. simplis., f $\frac{3}{4}$ i. M.

Sig.— $\frac{3}{4}$ i every two hours.

Collapse need not be feared, and the apomorphia disturbs digestion less than ipecac. He considers musk the respiratory stimulant *par excellence*. He does not allow the infant to sleep too long at one time, or to lie a length of time in the same position.

If crying makes them cough sometimes, it is all the better. The child should be carried about and its position frequently changed, in order that the secretions may be given less opportunity to settle down and occlude any one part of the smaller tubes. Much mucus may be expelled in producing increased movement of the chest-walls by means of pressure applied to the chest, like artificial respiration. —*Virginia Medical Monthly*.

ECZEMA OF THE ANUS AND SCROTUM.

Unna recommends the following:

R. Olei lini,
 Aquæ calcis,
 Zinci oxidi, aa $\frac{3}{4}$ j.
 Iodoformi, $\frac{3}{4}$ iss. M.

Sig.—Apply locally. —*L'Union Médicale*.

STOMATITIS IN CHILDREN.

Where the trouble is extensive and painful the *Province Médicale* recommends the following treatment:

(1) The gums should be brushed with—

R. Cocaine hydrochlor., gr. iss.
 Sodii chloridi, gr. xv.
 Glycerin.
 Aquæ, aa $\frac{3}{4}$ ijss. M.

Use a camel's-hair brush.

(2) A spray of a solution of boracic acid should be frequently used.

(3) Bromide of potash internally.

EARACHE.

R. Chloral. camphorat., 5 parts.
 Ol. amygdal. dulc., 10 parts.
 Glycerin, 30 parts. M.

Sig.—Apply on cotton, and introduce into the ear. —*The American Doctor*, April, 1891.

CHOREA.

Benedikt recommends the following treatment:

R. Fowler's solution, 2 to 3 parts.
 Distilled water, 222 parts.
 Simple syrup, 30 parts. M.

Sig.—Tablespoonful three times a day.

If there exist articular pains, give sodium salicylate for some days. Apply the continuous current along the vertebral column. Avoid narcotics, particularly hydrate of chloral. Desnos has used exalgine with marked success. —*Med. Abstract*, June, 1891.

BRANDY WITH EGG.

To administer brandy to infants, Elroy recommends the following:

R. Brandy, f $\frac{3}{4}$ i.
 Cherry-laurel water, gtt. v.
 Yolk of egg, No. ij.
 Powdered sugar, $\frac{3}{4}$ vi. M.

Sig.—To be given in the course of a day, a small spoonful at a time. —*Rev. de Clin. et de Thér.*

SCROFULA.

Iodine and iodoform give better results than the alkaline iodides. To young children tincture of iodine may be given, one drop daily in a little thin porridge made of farina and milk. Besnier prefers the use of iodoform, which may be given continuously for a long time. He prescribes it after the following formula:

R. Iodoformi, gr. iss.
 Mellis, $\frac{3}{4}$ iv. M.

Sig.—One or two teaspoonfuls to be taken. —*Le Bulletin Médical*.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

VOL. V.

JANUARY, 1892.

No. 4.

ORIGINAL COMMUNICATIONS.

A Case of Uterus Bicornis Duplex ; Atresia of the Right Cervical Canal and Retention Cyst.

BY FANNY BERLIN, M.D.,
BOSTON, MASS.

ALTHOUGH the number of reported cases of the different anomalies of the female genital organs is by no means a small one—judging from the literature on the subject—the occurrence of such a case in my own practice seemed to me worthy of putting on record in detail.

May 24, 1890, a young girl, F. Ph., 15 years old, entered the medical department of the N. E. Hospital for Women and Children.

Both parents are living and healthy. She had one sister, 18 years old, who is well. One sister died at the age of $1\frac{1}{2}$ years of a tumor in the neck.

Patient had had all the diseases of childhood. Three years previous, she had an attack of pleurisy, was ill at that time for a month, and could not go to school for some time afterward. She commenced to menstruate at the age of 12, was always regular, flowing

five days, and soiling about ten towels. Had a great deal of pain beginning with the appearance of the flow and lasting the first two or three days of the period. Her general health was fairly good, though she did not look robust.

Her thoracic and abdominal organs seemed normal; no vaginal examination was made at that time. She began to menstruate the third day after her entrance, May 27, 1890, and the pains set in very soon, and were particularly severe during the night, so that she slept but very little. Viburnum, phenacetine and antifebrin were tried in succession without any effect. She vomited several times during the pain. On the third day the dysmenorrhœa began to subside, and entirely disappeared on the fourth. She left the hospital May 30, 1890.

October 10, 1890, she re-entered

the hospital. On the 14th, she began to menstruate, with extreme pain and vomiting. Phenacetine, antifebrin, hot whiskey per mouth and hot injections per rectum were administered, one after the other, without the slightest effect, everything being rejected as soon as it was taken. During the night the pains increased so as to render sleep impossible. After again using the remedies enumerated above, which proved of no avail, $\frac{1}{4}$ gr. morphia sulph. was twice given hypodermically, and relief was at last obtained, so that she rested until morning. The pains continued, although not so severe, for four days, and on the sixth day the flow and pain entirely ceased, and she felt comfortable.

She remained in the hospital during the intermenstrual period, receiving no treatment except external applications of tincture of iodine to right lower part of abdomen. On the 25th of November, 1890, the record reads as follows: "She began to menstruate on the 24th without pain. Flows very scantily. Passed an uneasy, restless night, suffering from a slight, dull pain in right groin, which continues to-day. She was slightly nauseated, but retained her food. Soiled two towels up to noon. November 26, at 11.30 A.M., patient is in writhing agony from severely sharp pains in right lower abdomen. Hot flaxseed poultices applied, gave but little relief. A hypodermic injection of $\frac{1}{4}$ gr. of morphia sulph. somewhat allayed the distress, though at 4 P.M. there was a return of the severe pains, which were controlled only by morphia. During the attacks of these severe pains she was able to retain no food. Hot poultices were continued the night through, and on the morning of the

27th she had a severe headache. Pains in right vaginal region having lessened, she passed the day flowing, but suffering very little. November 28, she ceased menstruating. On the 30th of November she arose from bed, feeling quite comfortable."

December 10, 1890, a consultation of the staff of physicians of the N. E. Hospital was held, and she was examined by most of them. The majority inclined to the opinion that it was probably a tumor of the right ovary, which caused the disturbance during menstruation. What I felt, per vaginam, was a small tumor the size of a tangerine orange; this lay in right cul-de-sac, apparently distinctly separate from the body of the uterus, which latter was pushed to the left. A small virginal cervix, which moved with the uterus in the left cul-de-sac, was felt per vaginam. The tumor seemed quite movable, not particularly tender to the touch, and lay so low that it seemed as if it might easily be enucleated per vaginam. I was inclined to the diagnosis of a dermoid cyst of the right ovary. All agreed that removal of the tumor was indicated. The operation was to have been performed by Dr. E. C. Keller, during whose service this consultation was held, but the young girl had been rendered very nervous by the death at the hospital of a patient, who had had an abdominal section performed, and she felt convinced that she would die also. She, therefore, decided to wait a little longer, and again left the hospital.

In April, 1891, she returned. She had suffered very much each month since she left the hospital, and, although still feeling extremely nervous about the operation, and sure that she

would die, she asked to be relieved of her sufferings. Accordingly, she was prepared for the operation with the strictest antiseptic precautions, and, on the 17th of April, assisted by Dr. A. S. Whitney, I opened the abdomen. The patient took the ether very badly, owing to the extremely nervous state she was in; and her pulse, which was 120 during the anæsthesia, never went down afterward. The abdomen was opened and two fingers introduced. The condition of affairs was an utter surprise. I found the tumor, which we felt per vaginam, in the right cul-de-sac, so deep on the pelvic floor that I asked Dr. M. A. Smith, who was present at the operation, to lift it up with her finger from the vagina. After she had done this I found that the tumor was flexed laterally upon itself. From the top of it ran a Fallopian tube, and under the tube, in the folds of the broad ligament, lay an enlarged ovary. To the left of this body was another, similar to it, only normally anteverted, with a tube and ovary on its own side. I immediately concluded that I had to deal with a double uterus. Dr. Smith, at my request, introduced the sound into the cervix. It passed into and moved only the left uterus. No cervix, belonging to the right uterus, could be felt in the vagina. Knowing that all the pain suffered was located in the right side, and concluding that the dysmenorrhœa was probably due to the abnormal position of the left uterus (extreme latero-flexion — see Fig. 4) and enlarged left ovary, I decided to remove the left tube and ovary. This having been done, and the left uterus straightened on its axis, I closed the abdomen with silk-worm-gut stitches.

The patient was put to bed, and, although the entire operation lasted only half an hour, she was in a bad condition, looking very livid, with a pulse of 132. She did not rally very well from the operation. She complained of a great deal of pain in the wound, and was nauseated. Temperature rose to 104° ; pulse, 176. Respiration, 32, on the second day. She passed a normal quantity of urine; her bowels moved well on the second day, after calomel per mouth and turpentine enema; there was no tympanitis, yet she continued to grow worse; vomiting set in on the third day, when she died, apparently, of heart failure.

We had a partial post-mortem examination of the abdominal cavity, and found the peritoneal cavity and the stump perfectly dry; no signs of peritonitis.

We removed the pelvic organs, and found the following conditions:

Two uterine bodies, each with a Fallopian tube and corresponding ovary.

Dr. A. S. Whitney, at my request, kindly made some drawings for me from the fresh specimen. Plate I, Fig. 1, represents the two uteri with vagina opened and left cervix exposed and cut open. The lower part of the right uterus is covered by the bladder and peritonæum, p. b. In our search for a cervix belonging to the right uterus we felt, on a level with that of the left cervix, a cystic body about the size of a hickory nut, and, on laying back the anterior vaginal wall still further, this body was found to be a small, dark-colored cyst which, on closer examination, proved to be the right cervix distended by a small amount of thick, dark-colored blood.

A small depression on the most dependent portion of the cyst indicated the probable situation of the occluded os externum (r. o. e., Plate I, Fig. 2). The two uterine bodies were united at their necks by a band (c. b., Plate I, Fig. 2) of apparently the same structure as the uteri, and measuring three and a half centimetres in length and one centimetre in width. The left uterus, from fundus to os externum, measured seven centimetres, and its greatest width was two and a half centimetres. The right uterus, after correction of the latero-flexion, measured seven and three-quarter centimetres in length and three centimetres in width. On evacuating the contents of the cervix we found the wall of the lower half much thinned by the distention; the upper half seemed to have retained almost its normal calibre. No os internum could be found, and, except at the upper portion of the uterus, there was no well-defined uterine canal. This portion presented the appearance of a normal uterine canal, measuring one centimetre in length, two millimetres in width, and from it a fine probe was passed into the Fallopian tube (Plate II, Fig. 1, r. F. t.).

Plate 4 represents a diagram of the two uteri, with adnexa as found at the examination during life. As is seen from this diagram, the right uterus lies in extreme latero-flexion, concealing, by its bulk and position, its own cervix from the examining finger.

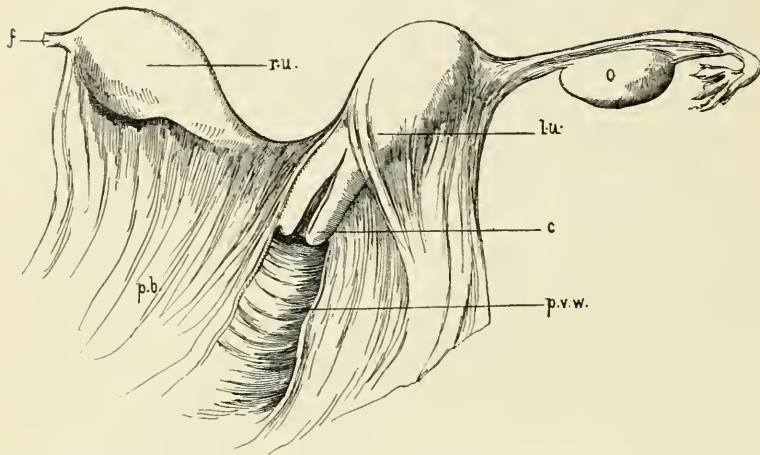
The fundus lay so deep in the right cul-de-sac that it gave the impression of a separate tumor. The obliteration of the uterine canal (Plate II, Fig. 1, r. u.) was, no doubt, due to this extreme and long-existing latero-flexion.

I am not able to assign a proper cause for the fatal termination of the case. Removal of the uterine appendages, even when performed on both sides, has become so little of a serious operation, the mortality from it, even with less experienced operators, so insignificant, that it is certainly not in the nature of the operative interference itself that the cause of death is to be sought; neither did the post-mortem examination reveal it. Had the case terminated in recovery, it would have been interesting to watch its further progress and the effect produced by the removal of the right uterine appendages on the performance of the menstrual function. As is seen from the history of the case, a correct diagnosis during life was next to impossible.

If the malformation had been of that variety where Miller's ducts have failed to unite in the entire course of their length, the existence of a vagina duplex would have led us to think of the presence of a uterus duplex also. But the normal condition of the vulva and vagina, and the concealed cervix of the right uterus, led us to make an entirely erroneous diagnosis.

PLATE I.

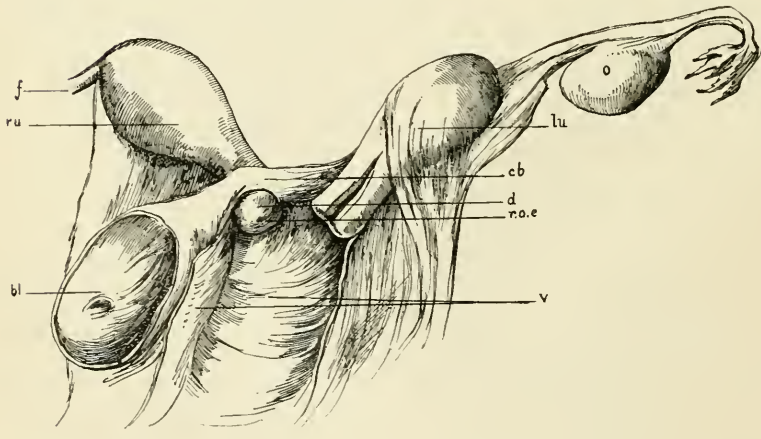
FIG. 1.



p. v. w. Post-vaginal wall.
l. u. Left uterine body.
r. u. Right uterine body.

o. Ovary (left) with Fallopian tube.
f. Remnant of Fallopian tube (right).
p. b. Ant. wall of bladder with peritoneal covering.
c. Cervical canal (laid open).

FIG. 2.



v. Vaginal walls.
l. u. Left uterine body.
r. u. Right uterine body.
d. Retention cyst.

r. o. e. Os externum (occluded) of right cervix.
o. Ovary (left).
f. Remnant of Fallopian tube (right).
bl. Bladder.
c. b. Band connecting the two cervix.

UTERUS BICORNIS DUPLEX.

Acute Retroversion of the Virgin Uterus.—Report of Cases, with Remarks upon the Difficulty in their Replacement.

BY WILLIAM A. EDWARDS, M.D.,

SAN DIEGO, CALIFORNIA,

Fellow of the College of Physicians of Philadelphia, and of the American Pædiatric and Pathological Societies; formerly Instructor in Clinical Medicine and Physician to the Medical Dispensary in the University of Pennsylvania; Physician to St. Joseph's Hospital, and Associate Pathologist to the Philadelphia Hospital.

WHEN we consider that the exact natural or normal position of the nulliparous womb has not as yet been determined beyond question, for example the situation as stated by Fritsch, Schultze, and Savage all differ,¹ it is somewhat difficult to estimate the degree of deviation from this unknown standard.

We will accept, as we have already stated,² the statement that the fundus of the uterus is situated on a line with the plane of the superior strait, and that the os will touch a line drawn from the symphysis pubis to the lower margin of the fourth sacral vertebra; with a forward inclination of the fundus which also inclines somewhat to the right; we accept also the correctness of Emmet's "health line."³ The inclination to the right is said to be due to the presence of the rectum on the left postero-lateral aspect of the pelvis, but we know that the lower bowel and rectum are often arranged in an anomalous manner, particularly

in regard to their topography; for example, in the records of one hundred and ten autopsies in the Philadelphia Hospital, upon which we have made special notes in regard to this matter, the rectum was on the right side of the pelvis in twelve pelves, in nine it was almost in the centre of the sacrum, and in the remainder it was toward or on the left side.

CASE I.—Observed in Philadelphia. Fannie M., aged 18, a healthy girl, fell from a step-ladder to the ground, a distance of perhaps five feet. She was immediately seized with sharp pelvic pains, and experienced a sensation as if something had given way. She was obliged to seek her bed. Forty-eight hours afterward her menses set in with extreme pain, her physician treated her for a month with opiates, during all this time there was a constant discharge of blood, sometimes almost purely arterial, then mucus tinged with blood, and again active hæmorrhage. The patient continued in about the above condition, and her next period set in with increased pains; in fact, they were almost unbearable. I was called in to see the case, and after quieting the pains by vaginal suppositories of opi-

¹ Bandl, Arch. für Gynäkologie, Band xxvi, Heft 3, 1884, has reviewed the diversity of statements in this respect.

² Pacific Medical Journal, April, 1889. Edwards, Anteversion of the Pregnant Womb.

³ Kolliker, Kohlrausch, Legendre, Freund, Braun, Sims and Langer all agree in placing the normal nulliparous womb about as we have stated.

um, an examination was made. The genitals were extremely sensitive, the vagina hot and dry, the fundus was found posteriorly and low down; in fact, the womb was turned almost upside down, and the examining finger first came in contact with the firm, rounded fundus through the intervening vaginal wall.

The os looked upward anteriorly and toward the internal pubic ligament. The uterus was movable, but appeared to be incarcerated through the firm aponeurotic fibres of the pelvic ligament. The patient was obstinately constipated and experienced much pain in urinating.

Recognizing the unusual character of the uterine displacement, a consultation was held with Dr. J. M. Keating, who, after examination, confirmed the diagnosis, and we were enabled to restore the womb to its natural position by rectal and vaginal manipulation, with the patient in an exaggerated knee-chest position. Immediately the girl expressed herself as relieved from pain; she was able to have a natural fecal evacuation, the first in thirty-two days; urination was no longer painful, nor was the call so exacting. A well-fitting Smith-Hodge pessary was introduced and worn for fourteen days, when it was removed on account of giving some pain, and was not re-introduced, as the case no longer demanded it.

The girl recovered from the immediate attack, but has ever since suffered from menstrual disorders, dysmenorrhœa, and laterally-developed right-sided tubal disease, for which she was to have been operated upon, but personal illness and change of residence have caused the case to drift from my observation.

CASE II.—Miss M. C., aged 30, admitted to my private hospital August 22, 1889. Patient has been an extensive traveller, self-reliant and not at all hysterical. While in Boston three years ago endeavored to move a heavy trunk, had a sensation of something giving way, fell to the floor; from motives of delicacy would not permit a vaginal examination. Has suffered much since then, and came to California in order to improve her general health. Upon admittance, her health was much shattered, morale weakened and nerves irritable, stated that the pain was no longer endurable.

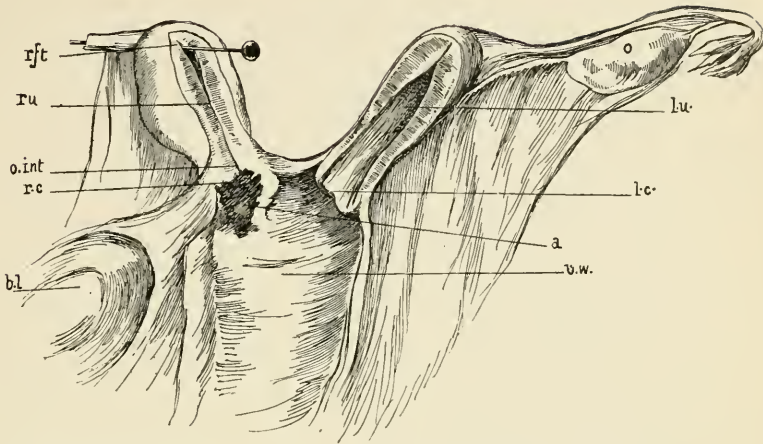
Menstruation appeared at the twelfth year, but has never been entirely healthy; for the last three years dysmenorrhœa, with very scanty and irregular flow, has existed; menstruation occurs every six or nine weeks. Before, during and after the flow the left leg is always numb and almost powerless, but is also the site of shooting pains. Bowels constipated.

Examination: Hymen was rigid; uterus, small; cervix, conical; os, undeveloped, pin-hole opening. Marked retroversion, with slight flexion; left tube and ovary somewhat enlarged, hyperæmic and tender; the ovary slightly prolapsed, no leucorrhœa, some vesical tenesmus, no cystitis. Extreme pain on defecation explained by situation of the ovary. Pelvic pain always much increased by assuming the erect position for any length of time.

CASE III.—Miss G. T. B., aged 32, also a great traveller, having spent many years in the West, leading an active outdoor life, camping and driving, but, notwithstanding, has suffered much; most extreme nervousness, delusions and hallucinations. Upon

PLATE II.

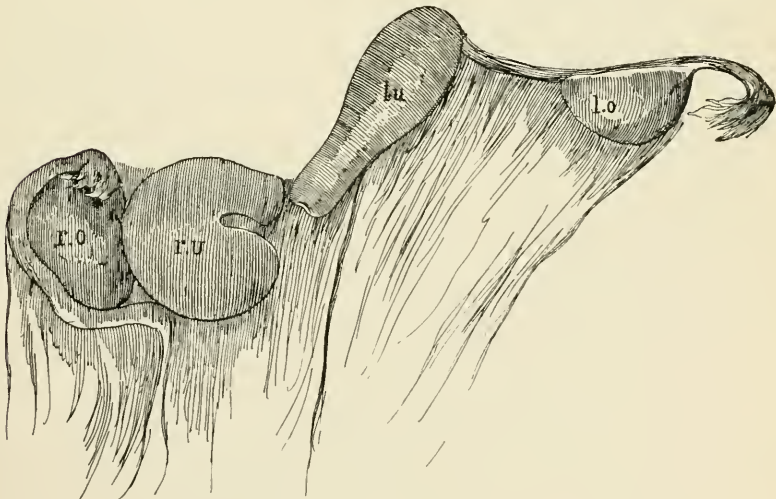
FIG. 1.



- | | | | |
|-------|-----------------------|----------|---|
| v. w. | Vaginal wall. | o. | Ovary (left). |
| l. u. | Body of left uterus. | o. int. | Occluded os internum (right). |
| l. c. | Left cervix. | a. | Walls of evacuated retention cyst. |
| r. u. | Body of right uterus. | r. f. t. | Remnant of right Fallopian tube, with probe passing through it from right uterine cavity. |
| r. c. | Right cervix. | bl. | Bladder reflected, showing posterior wall. |

SCHEMATIC REPRESENTATION OF THE ORGANS AS FELT DURING LIFE.

FIG. 2.



- | | |
|-------|--|
| l. u. | Uterine body (left). |
| r. u. | Uterine body (right) in extreme right lateral flexion. |
| l. o. | Ovary (left). |
| r. o. | Ovary (right). |

UTERUS BICORNIS DUPLEX.

admittance to my private hospital, December 13, 1889, she was very hysterical, demanding from the nurse some means of ending her existence; life was no longer endurable.

Examination: Hymen extremely rigid and resisting and abnormally high in the vagina; much hyperæsthesia of the genital canal, mucous membrane of the vagina and vulva suffused and congested. Cervix, small, conical and very poorly developed; infantile womb, os would not admit the smallest probe, uterus in a condition of marked ante flexion, but had fallen bodily backward, that is, an ante flexed uterus retroverted; adnexa tender and hyperæsthetic.

Digestion faulty; sleep irregular, very anæmic, corpuscles reduced in number. Bowels torpid; alternating attacks of diarrhoea and constipation. It was learned that Miss B. came from a nervous family, that she had chorea as a child, arrived at puberty at the age of 13 years, but the flow was scanty and painful; all her life menstruation has lasted but one day, and the quantity of blood lost would not exceed two drachms. Until the age of 25, hair did not appear on the mons veneris or in the arm-pits; her breasts at this age began to develop somewhat, before they had been rudimentary.

At the age of 16 the patient fell from a carriage, both wheels of which passed over the lower abdomen from one anterior iliac spine to the other, necessarily just over the pelvic viscera. The patient was much prostrated by the accident, pelvic pain was severe and the nervous system shattered; ever since menstruation has been very irregular and even more scanty, attended by much pain and many mental delusions.

As confirmatory evidence regarding the position of the uterus since the accident, the patient states that before, during and after the menstrual flow she has a sensation that she describes as an "attack of hæmorrhoids," which is relieved by assuming an exaggerated knee-chest position and ballooning the vagina; she has learned to do this herself without the aid or advice of a physician. It is needless to remark that the sensation is produced by the fundus pressing upon the rectum and is relieved when this pressure is removed.

Cases 2 and 3 were anæsthetized, and with the assistance of Dr. LeFevre of San Diego the uterus was rapidly dilated, followed by a week of tamponing, three weeks in bed and, finally, the adjustment of a proper pessary restored them to comfort and health.

Keating and the writer have reported some cases in a joint paper (*Med. & Surg. Rep.*, Nov. 5, 1887) which are briefly as follows:

CASE IV was suffering excruciating agony, referred to the rectum, with constant bearing down and symptoms of such severity as to demand immediate relief. A rectal examination revealed, about midway between the outlet and the promontory of the sacrum, a round and elastic tumor, which was at once recognized as the fundus of the uterus. Her constant and uncontrollable bearing down seemed to be dependent upon the desire to extrude this mass, which was so firmly pressed against the bowel as to almost occlude the calibre.

By firm pressure, directing the force upward to the left, the fundus was pushed beyond the reach of the finger, and relief from pain was immediately noticed. An opium suppository, rest

in bed for a day or two, and enemata to keep the bowels free, administered daily, was all the further treatment. The patient was soon as well as ever. The history of the case was that of constipation, frequent attempts at evacuation, which required a great deal of effort, causing more or less annoyance and pain. On the day in question she had been sweeping the room, and attempted to lift some heavy object, which caused her to use her abdominal muscles with some force. This was followed by the acute attack just noticed.

CASE V.—Dr. Keating was sent for in haste to see a girl about 30 years old. She was a domestic living at service; had previously been in perfect health; the only history was of constipation. While washing windows, on attempting to push up an upper sash which required considerable force, she was suddenly seized with excruciating agony in the pelvic region and constant bearing down, which required her at once to lie down.

Applications were made to the abdomen, and in a short time the pain somewhat subsided. She did not see a physician, was able to walk a short distance to a friend's house. The next day she suffered intense pain. Examination was made under ether. The uterus was found in a state of very acute retroversion, the fundus pressing down upon the bowel, almost obstructing its calibre. It was impossible to push it up further than a short distance. In this condition the patient was allowed to come from under the ether, an exaggerated knee-chest position assumed, and by exerting gentle but firm pressure the fundus was finally pushed beyond

reach and the uterus assumed its normal position. The patient was kept in bed for a few days, with cotton tampons, opium suppositories and injections of hot water to thoroughly relieve the bowel, which was very much packed.

She finally recovered without further bad symptoms.

This series of cases forms a most interesting study in the ætiology of posterior displacements of the nulliparous womb. All were due to trauma. In the first and third the force was direct; in the others it was indirect or muscular, the womb being crowded over backward and into the hollow of the sacrum. In Case 3, the condition differed from the others in that an ante-flexed womb was retro-displaced, retaining, however, its anterior curvature. This has been the most intractable of the series.

After our first case in Philadelphia, Dr. Keating and myself made some dissections upon the cadaver, with a view of learning the cause of the difficulty that we had experienced in replacing the womb, and also to discover, if possible, the factors which assisted in the posterior incarceration of the organ. A consultation of the standard works upon diseases of women shows, with almost absolute unanimity, the importance that is attached to the utero-sacral ligaments in maintaining the uterus in its abnormal position. These are the ligaments that Gray designates the posterior or recto-uterine, and which are described by Savage¹ as "crescentic prolongations of sero-muscular uterine platysma, containing, besides, muscular fibres prolonged from the vagina and uterine cortex,"

¹ Surgical Anatomy of the Female Pelvic Organs. 3d Edition. Plate 12.

also adding that the rectum has muscular connections with the utero-sacral ligaments. Parvin has devoted more space to these structures, and describes them as two semi-lunar folds passing from the uterus posteriorly just above the union of the vagina and attached to the third and fourth sacral vertebræ immediately within the lower part of the sacro-iliac joint.

The retro-uterine pouch—the so-called Douglas's pouch, is bordered laterally by these ligaments, and the last-quoted observer remarks that in some instances, where the retroverted uterus has sunk into this pouch, these ligaments interfere with its restoration.

Dornan¹ remarks that these ligaments can be distinguished by digital exploration of the rectum, and that intestine lying deep in the pouch of Douglas cannot always be recognized. In the earlier editions of Goodell's *Gynæcology*, 1880, he remarks that once in a while the empty (or the gravid) womb will be suddenly thrown into a state of retroversion, and remain so unless replaced. He has seen this follow an unexpected succussion, such as a misstep or a violent fit of coughing, when the bladder was overloaded. "The fundus of the womb then gets pushed backward below the sacral promontory, by which it is detained, and the woman finds herself in great pain and unable to pass her water."

The writer in Pepper's system, E. C. Dudley, while stating that retrolocation of the uterus may occur by the organ being forced back into a post-normal location, does not make mention of the cause or causes which retain it in position. This list could

be prolonged almost indefinitely, but to no avail, as sufficient has been stated for our purpose.

Dr. Keating and myself, through the courtesy and with the kind assistance of Dr. George McClellan, of the Philadelphia School of Anatomy, and Dr. John B. Deaver, of the University of Pennsylvania, were able to make some studies of the female cadaver. The abdomen was carefully laid open, and it was found in the three instances in which I was personally present that the retro-uterine pouch contained one or more coils of small intestine. In these three cases we displaced the uterus backward, and found, as it sunk posteriorly into the hollow, that these coils of intestine, momentarily displaced, found their way back almost at once to their former position, and were then superimposed upon the retro-displaced womb, and, furthermore, that the promontory of the sacrum had nothing whatever to do with the incarceration of the organ.

Upon first thought, when we were called to these cases, we concluded that by the sudden effort, the trauma or the succussion, the fundus uteri had been suddenly pressed downward and backward beneath one or other of the utero-sacral ligaments, a condition of affairs which theoretically could exist, as, with the uterus in its normal position, these ligaments form two fairly distinct bands; but, as we have already stated, by dissection these ligaments are found to be small folds or reduplications of peritoneum, containing a few bundles of muscular fibres attached to the uterus about the level of the internal os, or between it and the utero-vaginal junction, running back to the sacrum.

When the uterus is turned back-

¹ *Handbook of Gynæcological Operations*. London, 1887.

ward, either in a state of retroflexion or retroversion, the utero-sacral ligaments become almost or in fact completely obliterated, rendering it totally impossible for the fundus to become incarcerated beneath the fibres of the ligaments.

It must be borne in mind that these deductions are based upon a study of the pelvic organs of virgins. All the cases that we have seen have been in nulliparous women, and our studies upon the cadaver have been under the same conditions. In women who have borne many children, or in whom the pelvic viscera are much relaxed, there is a consequent relaxation of the utero-sacral ligaments, which, according to Kelly, involves a displacement of the cervix downward in the vagina, and a consequent backward displacement of the fundus uteri. Under these conditions, if the uterus was in a state of subinvolution, we can conceive of its possible retention by the utero-sacral ligaments, provided, of course, that they are relaxed and elongated; but we most definitely conclude that they do not merit consideration as factors in the posterior retention of the virgin uterus, or in parous women in whom the ligaments are intact.

Our observations, both upon the cadaver and in abdominal sections, have shown that the space which normally exists between the uterus and the rectum is usually filled with small intestine which completely obliterate the space which otherwise would exist, as the uterus is in close apposition to the bladder. Its movements

are coincident with the changes in position of that viscus; it is then in this triangular space, the so-called Douglas's pouch, that we found the coils of small intestines pressing downward toward or upon the floor of the pelvis.

The mobility of the uterus depends to a certain marked extent upon the condition of the bladder, and we can readily understand that should the bladder be empty and the uterus low in the pelvis, any sudden effort which would produce contraction of the diaphragm and abdominal muscles might precipitate the knuckles of small intestine upon the uterus, force it backward and downward and retain it in that position by the bowel pressure from above. This is, of course, more likely to occur with an empty bladder and an intestine containing fæcal matter. Under these conditions, when the uterus is forced backward, spasm of the abdominal muscles and of the floor of the pelvis rapidly arises, and the condition is made worse by the bearing down and straining efforts of the woman; flatus rapidly accumulates and the patient endeavors to have a fæcal movement, which, of course, only further aids in the incarceration of the uterus.

Photographs taken directly from the dissections, and which show clearly the facts stated in this communication, are in the possession of Dr. John M. Keating,¹ of Philadelphia.

¹Dr. Keating writes from Colorado, regretting that he cannot reach these photographs at present.

A Report of a Case of the Removal of the Uterine Appendages in the Absence of the Uterus.

BY Z. H. EVANS, M.D.,

Gynæcologist to St. Mary's Hospital, Saginaw, Michigan.

Miss F., aged 27, single, of light complexion and slender form, first consulted me at my office for irregular and painful menstruation in the month of June, 1889. At this interview I succeeded in bringing out the following history: She stated that she first menstruated at the age of 22, although ever since she was 14 years of age she had been called upon to suffer, through one week in each month, a great deal of pain in the head, down the spine and across the lower portion of the abdomen. She also stated that relief always followed immediately after a flow of blood had taken place from the nose; and when this bleeding from the nose did not take place she would then have a severe attack of hæmorrhage from the lungs. From this statement, together with the general make-up of the patient, I was convinced, without further investigation, that my patient was lacking in the proper development of her sexual organs, which proved, upon vaginal and rectal examination, to be the case. Turning my attention next to the physical examination of the patient, much to my surprise I found the external organs, considering her spare and slender form, fairly well developed. However, on passing my finger into the vagina, I found this elastic tube very much shortened and somewhat contracted upon all sides, so much so that I experienced a great deal of dif-

ficulty in finding the cervix uteri, and, when discovered, it conveyed to the examining finger the sensation of being no larger than an ordinary sucking-nipple, and would, when pressed upon with the finger, bob about as lightly as a cork in a wash-basin. On passing my forefinger of the right hand well into the rectum, and by placing my other hand directly over the region of the womb, and making at the same time deep pressure, I could, without the slightest difficulty, map out and isolate all the organs and intervening tissues that existed between my finger in the rectum and my hand on the abdomen. From this examination it was made evident, beyond a reasonable doubt, that my patient was practically wombless. As has been said before, she first menstruated by the vagina at the age of 22. This event was seized upon as a signal for general rejoicing, that at last the day had dawned when she was able to boast of as being the possessor of what she thought a full-grown and well-developed menstrual apparatus. As the local manifestations of this unknown menstrual phenomenon did not again appear in any form until she arrived at the age of 26, disappointed and chagrined at the unexpected turn of affairs, together with the profound impression communicated to her nervous system, she in the meantime had abandoned all

ideas of ever becoming a reigning belle, and sought relief and contentment in the seclusion of home life. During the year intervening from the time she arrived at the age of 26 to 27, she, during that time, menstruated by the vagina six times, twice by the nose, and upon one occasion she experienced a very severe attack of hæmorrhage from the bowels. It was immediately following this event that she called upon me for treatment. After patiently listening at great length to her story of acute physical and mental suffering, coupled together with the knowledge obtained at the examining-table, I at once concluded that the only proper course of treatment to pursue in this case was the immediate removal of the uterine appendages.

After explaining to a limited extent the nature of the surgical procedure to be adopted in her case, and the result to be obtained, she, after briefly considering the matter, accepted the operation with something like glee. Accordingly, on the 9th of July, 1889, with the assistance of Dr. H. B. Landon and Dr. J. H. Coughlin, I opened the abdomen to the extent of two and a half inches; on passing the two fingers of my left hand into the abdominal cavity they failed, as I expected they would, to come in contact with the fundus of the uterus. After some little searching about with my fingers they finally came in contact with the ovaries and tubes. On tracing out the source of the tubes I found that they both culminated and emptied themselves into a little cup-like depression, situated precisely in the locality where the uterus should be. Turning my attention next to the bringing forward of the ovaries and

tubes into the external wound for ligation and removal, I found them to be in a healthy condition, but perhaps slightly under-sized. The wound in the abdomen was now closed, the proper external dressing adjusted, and the patient placed in bed, where she in a very short time recovered from the slight shock of the operation. As there was no disease or strong adhesion in the pelvic cavity to deal with, she consequently made a very speedy recovery from the operation, and was able to walk about the house and ride out just three weeks from the day of the operation.

Precisely forty-one days from the date of the operation, much to my surprise, and greatly to the disappointment of the patient, she again menstruated, accompanied with all of her former pains and discomforts. During the sixteen months following this epoch, she menstruated regularly every twenty-eight days; latterly, however, she has been very irregular, and for the last few months has had no indications of its return. I always believed, up to that time, that for a woman who had lost both ovaries and both tubes by operation, and, that too, in the absence of the uterus, to menstruate under such circumstances, was simply a physiological and anatomical impossibility.

In looking up the literature on this subject I found, by consulting Mr. Lawson Tait's great and unsurpassed work on "Diseases of Women and Abdominal Surgery," two recorded cases bearing directly upon this question. In vol. i, p. 320, he says: "I have found by clinical experience that removal of the tubes without touching the ovaries at all will arrest menstruation in about ninety-five per cent.,

but it does not do so in the other five. But in some cases—I have been watching three of them for years—removal of both ovaries, both tubes and five-sixths of the uterus, will fail to arrest menstruation. One of my cases was a pregnant woman, in whom I performed Porro's operation many years ago, and she menstruates still quite regularly in a manner normal in every respect." He says again, on page 311, same volume: "I have added to the evidence abundant proof that removal of the ovaries, without injury to the tubes, has often no influence on menstruation at all; that removal of the tubes, even when the ovaries are left, arrests menstruation in the majority of cases, but that (as in one of Baker Brown's cases) even removal of the ovaries, tubes and greater portion of the uterus may not arrest or influence in any way the menstrual periodicity. The study of the subject of menstruation, surrounded as it is with difficulty, is as interesting as it is important, and has from time to time attracted the attention of some of the most learned disciples of the medical profession of ancient and modern times. And had they succeeded in their honest efforts in shedding as much light on the precise nature and character of this most difficult problem as they have ink, it would to-day stand forth in the light as bright as the noon-day sun."

As far as my slender ability and limited opportunities for observation have been, these three cases, supported as they are by collateral evidence, stand to-day unparalleled in the annals of surgery, and will in the future, in my judgment, contribute largely in establishing the fallacy of all the previous theories and doctrines relative to this very important subject.

Modern abdominal surgery has rele-

gated the ovular theory of menstruation to the pile of worthless rubbish, and in doing so it has seized upon and carried with it the suggestion of Mr. Lawson Tait, that the starting point of menstruation is within the Fallopian tube. It has completely annihilated the theory of Dr. John Williams, that menstruation consisted of a total destruction of the mucous membrane lining the uterus. With equal certainty it has disproved the doctrine of Mr. Bland Sutton (although it bears the imprint of having received its nourishment from the pap of the highest surgical authority in the person of Mr. Lawson Tait), that menstruation consists of shedding of the epithelium of the body and fundus as well as that lining the utricular glands near their orifices. These theories and combinations of theories that have from time to time been brought forward, and by which their respective sires sought to explain the cause or causes of menstruation, have contributed largely toward deforming the annals of physiology and pathology, and by so doing they have succeeded almost beyond comprehension in mystifying the young, puzzling the middle-aged, and disgusting the old. I am clearly of the opinion that the cause of menstruation, whatever it may be, can never be understood or comprehended by human intelligence, or made to yield its secrets to the genius of human ingenuity. Our knowledge regarding menstruation is extremely limited; what we see of its function are but the local manifestations of some peculiar nervous phenomena, to us at present unknown, but securely locked up from our finite minds in the archives of the nerve-centres.

Since writing the above, I have been

made acquainted with still another case, which occurred in the practice of Dr. E. W. Cushing, where he, some two years ago, cut away the entire uterus for cancer, including in his op-

eration the removal of both ovaries and both tubes. Strange as it may appear, this patient menstruates as regular as she did before the operation.

Thirty-two Unselected Abdominal Sections.¹

BY THOMAS OPIE, M.D.,

Professor of Gynæcology, College of Physicians and Surgeons, and Gynæcologist to Baltimore City Hospital.

Mr. President and members of the Southern Surgical and Gynæcological Association: It is with no little diffidence and apprehension that I offer this society a paper which is the beaten track and the hackneyed theme of a narration of cases, especially since it has been made up little by little as the fragments could be wrested from the busy activities of the practical doctor.

I do not come before you with the promise to present new and therefore interesting facts; all of us might admit the paucity of facts, even in the great province of medicine, yet all are earnestly looking and longing for them. Every statement, proposition or theory in any department of medicine, before it can be reckoned among settled facts, must be submitted to a calm, judicial consideration, publicly and openly, before the bar of the medical profession.

In new fields the caution and de-

liberation of the profession are especially commendable. The experience of many observers is desired; full and free discussion is sought; extensive statistics are essential. In submitting this statement of a year's work in abdominal surgery, though it be small as compared with that of many operators, it is to be hoped that it will elicit a full and frank interchange of experience and thereby, in some measure, help progress in this department of gynæcological surgery.

In doing so, I do not hesitate to say that every narrator of his personal experience should, when before the tribunal of the profession, feel that the withholding of a single error of omission or commission vitiates his confession. We want the truth; but more—we earnestly desire the whole truth.

Statistics framed in this spirit would be invaluable to the profession and, therefore, to the human family. In other words, "Every man should be his own critic."

The accompanying tabulated state-

¹ Read before the Southern Surgical and Gynæcological Association, at the meeting held in Richmond, Va., Nov. 10, 11, 12, 1891.

ment embraces thirty-two abdominal sections made in the twelve months beginning November 1, 1890, and ending October 31, 1891.

This list does not include the whole number of laparotomies performed at the Baltimore City Hospital during the time stated, since this institution opens its doors to all operators of good professional standing, who may see fit to attend and operate on such cases within its walls.

The writer had the misfortune to receive an attack of septic empoisonment on December 10, 1889, from the prick of a pedicle needle, while performing a laparotomy on a case of septic peritonitis. This report, therefore, represents his first year's work immediately following that interruption, which lasted over a year.

It has been said in connection with this important and relatively new work, that there is "too much surgery."

In answer to this charge, I would say that this question can best be decided by surgeons.

It is a sad state of things if we can say of any individual surgeon that he is not wiser at the end than at the beginning of his year's work. He can, however, no more than the physician, claim immunity from mistakes. If he be wise or skilful, he will not be chargeable with repetitions of the same mistakes; thus he, as well as his future patients, will profit by his failures. Moreover, there is inevitably an error in judging the work in this or any other branch of medicine by the results of individual operators. The whole of a thing can never be accurately determined by any one of its parts.

The statistics in this new field are

as yet comparatively small, and the facts are few. It is quite well established that the happenings incident to surgery will bear a very close relationship to each other in every one hundred cases. It is equally true that knowledge, calmness, deliberation, cleanliness and promptness in coping with emergencies constitute the differences between surgeons. A succinct definition for science is, methodized knowledge, but something must be added to cover the work of the surgeon—viz., common sense and sound judgment. It is also true that with a skilful surgeon each 100 cases in his own experience should be a success beyond its predecessor.

Would it not subserve a good purpose to adopt some uniformity in our mode of collecting statistics? It might be an improvement if all members of this society would alike report their work in this department fully from one meeting to another, or at least upon some uniform plan. As it is, the statements are fragmentary and, therefore, not so valuable, since successful cases are given prominence and failures are apt to be overlooked. It is agreeable to recount our successful cases; it is a very severe test to confess our losses.

What there has been of error or detraction in my work, I will, as frankly and as fully as I know how to do, place before you conspicuously in the early part of this statement, nor will I ask you to "hide the faults (you) I see."

UNSELECTED CASES.

The operations were performed consecutively, as set forth in the accompanying table; they were:

Ovarian tumors.	6
Chronic ovaritis.	7
Fibroid tumors.	4
Pyosalpinx.	5
Retroflexion with adhesions and dysmenorrhœa.	3
Exploratory incisions.	3
Extrauterine pregnancy.	1
Abscess of ovary.	1
Cyst of broad ligament.	1
Cystic degeneration of ovary.	1
Total,	32

Nine of these patients came to me through the dispensary connected with the College and were operated on in the amphitheatre before the whole class at the College of Physicians and Surgeons. The remainder, twenty-three, were operated on privately. Twenty-seven were white and five were colored.

DEATHS.

The deaths were as follows:

Oöphorectomy for pyosalpinx.	1
Shock from ovariotomy.	1
Oöphorectomy for acute mania.	1
Abdominal hysterectomy for fibro-cystic tumor.	1
Total.	4

No attempt will be made to describe fully each individual case, but the classification will admit of a separate discussion of the various classes of disease or operations and enable the writer to select and lay before the association what seems of special interest.

In such a report as this, the deaths are commonly regarded as stigma, nevertheless they are usually instructive. I must give a full account of my stewardship, and consequently trespass upon your time, with the details of each one of them.

CASE VII.—Colored servant, single, had received dispensary treatment for several months for gonorrhœa. The

diagnosis was made out correctly, as the sequel proved, as gonorrhœal pyosalpinx. The urgent necessity for surgical interference was impressed upon the patient, but the operation was long deferred. On the 5th of February, 1891, a laparotomy was performed. Both ovaries and both tubes were matted together and adherent to the intestines in the posterior cul-de-sac. They were with difficulty removed. The left tube burst in detaching it, and its virulent contents were discharged into the peritoneal cavity. The pus was easily and freely squeezed out of both tubes after removal. The abdomen was flushed out. Alarming hæmorrhage ensued from the denuded surfaces of the cul-de-sac, which was arrested by packing it firmly with iodoform gauze. This was removed in six hours. Her temperature rose to 101 degrees during the night and reached 103 degrees the next day, pulse 130. She died on the third day, of septic peritonitis.

Post-mortem: Flaky lymph and pus over intestines. No fluid in abdomen. Ligatures had held securely.

CASE X.—White, age 50, married; visited me at the hospital about February, 1891, received an opinion that she had an ovarian tumor which was fully developed and should be removed at once. This advice was disregarded. She returned home and remained there until six or seven weeks later, when a letter from her physician impelled her to come on for the much-needed surgical treatment. She was admitted on the 16th of March and operated on on the 19th. Her condition was bad. Her temperature was 100° and pulse rapid. Her abdomen was very sore under palpation. The colloid contents and

the solid elements of the tumor weighed over twenty pounds. The whole abdominal wall seemed ablaze with inflammation; the intestines were largely adherent to the tumor and matted together. The contents of tumor would not run, but had to be scraped out piecemeal by the hand. She was profoundly shocked; hypodermics of whiskey were given freely; milk, beef-tea and whiskey were administered per rectum. Though retained they were of no avail. Death ensued at 3 A.M., I think, from surgical and chloroform shock.

Post-mortem by Prof. Kierle: No blood in abdomen whatever; abdominal cavity perfectly dry. Ligatures tightly adherent to parts. Organs healthy. Died of shock.

CASE XVIII.—White, age 18, single, family history good. Had had periodical attacks of mania. The first attack came on simultaneously with her menstrual flow at 15 years of age. Her menstruation was always accompanied by severe pain. Six months ago she had so severe an attack of mania that she was sent to an insane asylum. On the third day after the operation mania set in; she could not be kept in bed. It was impossible to keep her bandage on. She grew more and more violent, and died January 23, 1891—thirteen days after the operation.

Post-mortem by Prof. Kierle: Complete post-mortem not allowed. Kidneys markedly congested. No fluid in abdomen. Lungs congested. Brain not examined; probable cause of death here.

CASE XXXII.—W. M., white, married when 21 years of age, sixteen years ago; had three children and one miscarriage.

Five years ago noticed a tumor in her abdomen, which gradually grew larger and was said to be an ovarian cystoma. She suffered from frequent hæmorrhages. They were profuse in character and at irregular intervals. On examination, a tumor as large as a man's head was realized in the abdomen. The uterine probe ran up into it for three-fourths of its length. An abdominal incision was made about eight inches long; the tumor was lifted out of abdomen and secured by Baker Brown's clamp. The bleeding was readily controlled and the peritoneal cavity flushed. The abdominal wall was closed with silkworm gut and the stump secured in the lower angle of the wound. Though severely shocked she rallied well. The mass comprising the fibroid, womb, ovaries and tubes, weighed ten pounds.

The patient did well for three or four days, but after this her pulse and temperature began to rise, and she died on the seventh day of septic peritonitis.

Post-mortem by Prof. N. G. Kierle: Wound had entirely healed up; the clamp was tightly holding the stump. Abdomen contained two ounces of bloody fluid. The intestines were adherent and covered with inflammatory lymph. Kidney, soft and fatty; liver, fatty. Death from septic peritonitis.

EXPLORATORY LAPAROTOMY.

CASE IV.—Age 46; operated on January 5, 1891. The exploration revealed malignant degeneration of the left ovary, with cancerous cysts studing the peritonæum and intestines. A large amount of abdominal fluid was removed. The cavity was thoroughly flushed and the walls closed. Patient returned home in three weeks

greatly improved. It must needs have been temporary.

CASE XXII.—Age 25, married, sterile. Operated August 26, 1891. A large malignant growth was found in the left side involving the corresponding ovary and the liver. Patient had icterus at the time of operation. Stitches removed on the eighth day. She improved rapidly and returned to her home in good spirits.

CASE XXVI. M. O., age 33, widow; had two children and one miscarriage during wedlock. Operation September 26, 1891. Had performed criminal abortion with a tortoise-shell bonnet-pin. On admission a digital examination was made. The pelvis was blocked with exudates. In the centre of the posterior cul-de-sac was a boggy point, the field all around being solid to the touch. Percussion and palpation indicated the extension of the inflammation and effusion high up on the left side of the abdomen. The temperature in the mornings was about 101° ; in the evenings about $102\frac{1}{2}^{\circ}$ to 103° .

An exploratory incision was decided upon and made in the median line. It was impossible to explore the pelvis; the strong resistant adhesions and exudation were an effectual stay law. A large amount of bloody serum was flushed out. The temperature at the time of operation, 102 degrees, began to decline at once; the effusion was gradually absorbed, and at the end of three weeks there was no sign of the pelvic trouble. Drainage was not used in any one of the three exploratory laparotomies.

The number of these cases is too small to prove anything, but they are suggestive and add to already strong testimony which is recorded, that a

laparotomy done in a thoroughly aseptic manner is a warrantable resort, when the indications are threatening and diagnosis doubtful.

OVARIAN TUMORS.

The six cases of ovariectomy made good recoveries with the exception of No. 10, in which there was realized extensive peritonitis on opening the abdomen. This case is reported among the deaths.

CASE II.—White, single, age 38, was an interesting case, since, in addition to the cystoma of the right ovary, which contained two and a half gallons of fluid, there was on the left side a dermoid cyst the size of a child's head. The contents consisted of bone, hair, etc. The pedicle of this tumor was four inches wide, hence there was some difficulty in constricting it efficiently even in sections. This patient, strange to say, menstruated regularly up to August 25 last, within three months of the time of operation. She suffered from attacks of mental aberration during a year prior to the operation. Excellent recovery ensued, both mentally and physically, which has been maintained without interruption from the time of the operation up to this date.

CASE XXI.—White, single, age 16. Her abdomen approximated the size of a woman at full term before the operation. She and her friends noticed the enlargement of her abdomen for the first time four years ago, when she was twelve years of age. It is fair to conjecture that it had filled the pelvis and, like the pregnant uterus, had developed into the abdominal cavity at that time. If there is a parallel between the nutritive growths in these two conditions, this tumor

must have started at a very early age, possibly when she was eight or ten years old. Her first menstruation was in January last, and it recurred irregularly afterward. She bore the operation and the subsequent treatment with great fortitude and made an excellent recovery.

The other four cases of ovarian tumor presented nothing of special interest, save their complete and permanent recovery.

CHRONIC OVARITIS.

In this class there were six. Among them was Case 17: single, aged 20. She began to menstruate at 15. Her first epileptiform spasm began coincidentally with this event. From that time up to the time of the operation, she had these attacks both during the interim and at the time of the menses. The attacks were more severe just preceding the establishment of the flow. They were attended by convulsive movements of a pronounced character, followed by a period of stupor and sleep lasting 15 or 20 minutes. At other times they were caused by overtax, by mental worry or excitement. The intermenstrual spasms were attended by slight twitchings and a short sleep. Her friends, prior to seeking relief by oöphorectomy, had spent quite a fortune in their efforts to cure her, having had her under the treatment of some of the most eminent neurologists in New York. Electricity, massage, drugs, all in turn proved unavailing. No difficulties arose in the operation. A few days after the operation she had several spasms, but no harm ensued from them. Convalescence was uninterrupted and rapid. She spent several weeks at the sea-

shore, and paid me a visit on her return home. The young lady had gained notably in weight and strength, but the intermenstrual form of the attacks still recurred. At this writing I am unable to state her condition.

CASE XVIII, white, single, 18 years of age, was an interesting case of this class, who had an attack of acute mania at the first menstrual flow. Six months ago, she had a recurrence of insanity, and was sent to an insane asylum. Oöphorectomy was followed by acute mania. She was uncontrollable. Death ensued from sepsis. The case has already been reported in this paper under the caption of the deaths.

CASE XII.—White, single, age 21. Had always been sick since childhood; had been for years subject to recurrent attacks of follicular tonsillitis. Her menses were established at 17; about that time she had a severe attack of typhoid fever. For six months prior to the operation of oöphorectomy she had been bed-ridden. She was hopeless, dyspeptic, and anæmic in the extreme degree. Her neuralgic headaches and ovarian pains were intolerable at each menstrual epoch. She readily accepted the proposal as to the removal of the ovaries. The operation was borne courageously, and her convalescence was uninterruptedly good. Upon her return to her home in Baltimore she relapsed into her former despondent condition. She has not fulfilled my expectations as to complete cure, though she has improved physically.

CASE XIV.—White, single, age 23. Was healthy until 13, when menstruation began. At first the recurrences of it were painless and regular. An interruption of four months occurred,

and dysmenorrhœa, menorrhagia and ill-health followed. Tormented by her physical pains and disqualification, and her inability to support her aged parents, she sought oöphorectomy as a last resort. It brought about excellent health and capabilities.

CASE XVI.—White, single, age 22. Unlike the preceding case, had led a life of luxury and ease. Her dysmenorrhœal pains in defecation and general depreciation in health during five years caused her family to seek the removal of the ovaries. Perfect satisfaction as to health, cheerfulness and comfort has come both to her and her friends.

CASE XXVII.—Age 39, colored, a washerwoman, widow. Operation Oct. 8th. Had one full-term child and one miscarriage. This patient was operated on by me one year ago for a deep laceration of the cervix: While the parts healed well, she was not benefited as regards her distressing and disqualifying dysmenorrhœa. The appendages were removed. She is still in the hospital. All the indications betoken a happy issue out of her afflictions.

It is noteworthy that five out of six of these cases of chronic ovaritis were single, and that their ages range from 18 to 23 years.

PYOSALPINX.

The five cases under this heading all made good recoveries but one, which was a very unpromising one. Both ovaries and tubes were packed in one conglomerate mass in the posterior cul-de-sac, one of the tubes ruptured on removal, causing septicæmia. It is interesting to relate, as bearing on the ætiology of this disease, that every one of these cases was undoubtedly gonorrhœal in origin.

Two had been under treatment in our dispensary by Dr. W. S. Gardner, and the other three were ladies who were innocent victims to the viciousness of their husbands. I prescribed for one of the males a short time prior to marriage for gonorrhœa, and was greatly astonished not long after that event, to find him with a bride whom he had infected with the same disease. Six months later the uterine appendages were removed. The other two confessed to having transmitted it to their wives. One of the cases was an extremely critical one, since a pus tube had burst and discharged through the rectum three months prior to the operation. From that date to the operation the lady was disqualified for any household duty, though she had around her a large family. When operated on six months ago, she weighed 130 pounds; she now weighs 160 pounds, her weight when in former good health.

FIBROID TUMORS.

Two abdominal hysterectomies were performed for fibro-cystic degeneration of the uterus. The first was

CASE XI.—The abdominal incision was $14\frac{1}{2}$ inches long from the sternum to the pubis; the tumor weighed over 20 lbs. Its vertical circumference measured $23\frac{1}{2}$ inches, and its transverse circumference $22\frac{3}{4}$. There was, in view of the very large pedicle, considerable difficulty in securing her against hæmorrhage, hence the intra-abdominal method of treatment would most likely have failed had it been resorted to. A full description of this case has already been published in the proceedings of the A. M. A. of 1891. The patient was unburdened, and health is now being enjoyed.

The second was a case of supra-vaginal hysterectomy for a fibro-cystic tumor of the uterus. This has been described.

CASE XXIV.—The third case of fibroids gave the following history: Her first intimation of a tumor was October 18, 1890. While playing on the piano, she had a rush of blood which filled a chamber. This was the time of her menstrual flow. She bled alarmingly at each menstruation. Prior to operation she had bled continuously for a month. Diagnosis was intramural fibroids, chiefly occupying the posterior wall. The pelvis was well filled by the tumor. While I hoped to find the ovaries, due preparation was made for a hysterectomy. They were happily in front and were removed; not a drop of blood has appeared since the operation. She made a good recovery.

CASE V was one of subperitoneal fibroids. The patient has been bed-ridden for six months, though sick and disqualified for all the duties of a wife for years. The uterus was retroflexed by a fibroma the size of a hen's egg, situated on the upper posterior part of the fundus. In addition to this, there was a small intramural fibroid the size of a filbert, located on the posterior wall at the junction of the body and neck. Myomectomy was done, and both ovaries and tubes were removed. She made a good recovery.

HYSTERORRHAPHY.

In two cases, No. 1 and No. 25, hysterorrhaphy was performed after the removal of the appendages for retroflexion of the uterus with chronic ovaritis and dysmenorrhœa.

The operation by suturing through

the anterior uterine wall may well be considered obsolete. The first case I performed on 13th November last, suturing through the stump of the uterine appendages without scraping or otherwise injuring the uterine wall. The outer parts of the sutures were cut off at the end of two weeks, and the remaining parts allowed to fall back into the abdomen.

In the second case, No. 25, the sutures were simply made to pierce (without tying) the ovarian ligament and brought through the abdominal wall opposite their respective insertions about $1\frac{1}{2}$ inches from the incision, and tied over a bridge of skin $1\frac{1}{2}$ inches wide. In two weeks they were removed by cutting one side and drawing them out entirely.

Both cases when discharged were in excellent condition. The uterus in each case was well secured in its rectified position, as attested by several competent examiners. Further time is necessary to establish the permanence and value of these operations.

CYSTIC DEGENERATION OF OVARY, COMPLICATED BY PREGNANCY.

CASE XXIII.—Married, 23 years old, has had no full-term children, but three miscarriages during the first third of gestation. Patient had been subjected to considerable local treatment without avail. Her present trouble with the left ovary had been recognized during the past three years. The possibility of pregnancy was broached, but her attending physician said he had lately been making intra-uterine applications, and hence was confident she could not be pregnant.

On opening the abdomen, the diseased ovary was readily verified, but

the uterus was unduly large, and the cervix was dilated with the parallel-bar dilator, so as to explore its contents. A fœtus of six weeks was withdrawn, the ovaries were removed. The subsequent history of the case was uneventful, save that recovery was rapid and complete. The ovary on left side was represented in the thickened portion of the wall of a cyst the size of a walnut.

EXTRAUTERINE PREGNANCY IN A
DOUBLE UTERUS; REMOVAL OF SAC
AND THE REMAINING OVARY.

CASE XXX.—Age 32, had been married fifteen years, but was without offspring. Since girlhood she had been regular with menstruation. For four months past her menstruation had been scanty and irregular and her general health miserable. One month prior to the operation she was compelled to go to bed. When the patient was first examined in consultation with Dr. Wm. Gombel, of Baltimore, her attending physician, there was a hard resistant mass occupying the left side of the pelvis, pressing upon the rectum and causing intolerable agony. Laparotomy was determined upon. A large encysted mass, the size of two fists, occupied the posterior and lateral regions of the pelvic basin, pushing the double uterus to the opposite side. At the outset, in enucleating it, the blood contents escaped, the sac was shelled out, and the pedicle ligatured. The right ovary was removed, the abdomen was flushed, the drainage tube inserted, and the abdomen closed.

The double uterus was realized by sight as well as by touch, it having been held up in the incision for a satisfactory recognition by all present. There were two distinct fundi, with

deep sulcus between them. The cervix was single. The drainage tube was taken out in twenty-four hours. The patient, during about ten days, although doing well, physically, had an attack of mania. Providentially she was at no time unmanageable, though she was watched with the most assiduous attention by her nurse. She entertained two vagaries, and aside from them was sane and logical. One was the constant dread that she was to be operated on by the doctor again, and when either of her attendants entered the room she was frantic with fright. The other departure was that she could hear her family talking in the next room. She would answer their supposed questions, and plead pitifully that they be admitted. She is now perfectly sane, has gotten well of her stitch abscess, which followed the drain tube, and is out of harm's way.

A microscopic examination of the tissue of the sac showed it to be placental.

STITCH ABSCESS.

This complication occurred nine times, a much larger number relatively than I have seen recorded heretofore; while no case proved disastrous, several were exceedingly annoying in delaying patients in hospital. They occur most frequently in cases where the drain tube has been used. The early opening of the abdominal dressings for any purpose favors their occurrence. When the dressings remained intact for seven days there seemed to be greatest immunity from the stitch abscess. Dr. Welch says: "A coccus, which may appropriately be called the staphylococcus epidermis albus, is a nearly, if not quite, con-

stant inhabitant of the epidermis, lying both superficially and also deeper than can be reached by present methods of disinfection of the skin. The coccus is found frequently in aseptic wounds. It may be the cause of disturbances, usually of a relatively slight degree, in the healing of the wound, especially when drainage tubes are inserted. It is the most common cause of stitch abscesses in wounds treated aseptically and antiseptically."

DRAINAGE IN ABDOMINAL SURGERY.

Drainage was resorted to in but three cases during the year.

CASE II, ovarian and dermoid cyst, had a drainage tube in five or six days, and I am convinced it retarded her convalescence.

CASE XXVIII, extrauterine pregnancy, had a tube in less than twenty-four hours. If I may judge of the necessity for it by the quantity or quality of the discharge through it, I should say it did no good. A small superficial abscess at the entrance of tube followed its withdrawal.

CASE XXXII.—Ovarian abscess; had a drain tube in about twenty-four hours. An abscess occurred at the site of its entrance. The quart of pus, which was sacculated in this case; was removed without an atomic part of it touching the peritonæum or the wounded parts, otherwise her fate would have been sealed, as was the case in No. 7, where the pus tube burst, and death ensued on the third day of peritonitis. Even in such a case as the latter, the most we could do would be to thoroughly flush out the abdomen.

I am of the opinion that there is even too much flushing done; it is but

seldom called for. A plentiful supply of fine, properly-prepared elephant-ear sponges, will do away with flushing in most cases and remove the necessity for drainage. They are efficient helps in keeping the abdomen free from infection. They can be utilized in keeping back the intestines, in occupying the cul-de-sac in positions below the pedicle, in taking up blood or secretions, in stanching hæmorrhage, in separating adhesions, in protecting the intestines while closing the abdomen. The assiduous personal attention of certain workers using the drain tubes has caused them to escape the disasters which have befallen the less careful and less skilful surgeons.

Nature's plan for curing the unsightly rents the surgeon makes when he opens the abdominal cavity is to seal hermetically the sacred cavity of the peritonæum in twenty-four hours. This kindly and providentially comports with its sensitiveness and its fitness for the cultivation of germs of disease. Does not this prompt sealing of the peritonæum speak with unmistakable logic to the point of striving hard for an aseptic operation and for securing immediate and absolute closure?

The oft-repeated removal of the dressings of the patulous drainage tube must of necessity be a very great danger; surely it favors decomposition and invites germs. All surgeons are aware that after an anæsthetic, restlessness and jactitation are not wholly restrainable. It is easy to conceive how physical injury may accrue to the patient during this critical time from these not-at-all-innocent yet smooth glass tubes.

I believe drainage is doing more

harm than good, and therefore ought to be abandoned by the abdominal surgeon.

There is a dual personality as well as power concerned in all surgical work. The one is the surgeon who skilfully meets and disposes of the crises in the more mechanical part of the work and therefore receives the plaudits of the multitude; the other is the influence behind the throne, more potent than the throne itself, which reaches beyond the eye, the touch and the knife. I scarcely need say it is the modest, yet oft-despised laboratory physician who is teaching us the hidden leaven of disease. Let us give him grateful recognition for the pivotal facts and secret springs in recent surgical success. When he says bruised tissue is a paragon field for the cultivation of infected germs, let us heed the warning and cast aside the drainage tube.

Dr. Parkes says as to drainage: "Views and practices concerning drainage have materially changed even since the antiseptic era began. Our predecessors drained to permit escape of pus which they knew would form. Until lately we have drained in order to prevent its formation. We seem now to be on the eve of an era when we need to drain but little or not at all. We resort to drainage now only of necessity in septic or infected cases. In other cases we drain mainly from habit or from fear. Indeed, when we start afresh, as it were, without previous infection, the practice of drainage is a confession of fear or of weakness, both of which are alike unscientific and unfortunate. It even seems to me that in many cases where all other aseptic requirements have been met, we do much more harm than good by the use of drains."

ABDOMINAL SECTIONS—BALTIMORE CITY HOSPITAL.

NO. AND COLOR.	NAME.	AGE.	DATE.	SINGLE OR MARRIED.	MISCARRIED.		DISEASE.	OPERATION.	DRAIN.	COMPLICATIONS.	REC'D.	DIED.	REMARKS.
1 W.	H. T.	30	Nov. 13, 1890.	M.	5		Retroflexion Dysmenor- rhea.	Removal of both ovaries. hysteror- raphy.	No.	Stitch abscess.	R.		Examination before leaving the hospital showed the displacement to have been corrected. Health restored.
2 W.	W. E.	38	Nov. 24, 1890.	S.			Ovarian tu- mor and der- moid cyst.	Extirpation of both tu- mors.	Yes.		R.		Right ovary distended with 2½ gal- lons of fluid. Nearly its entire surface was adherent to abdominal wall. On the left side was a dermoid cyst the size of a child's head, the pedicle of which was four inches wide. Re- covery complete.
3 W.	H. L.	37	Nov. 28, 1890.	S.			Chr. ovaritis, dysmenor- rhea and hysteria.	Removal of both ovaries.	No.		R.		A working-woman totally disabled from making a living; was anemic, subject to dysmenorrhœal pains, ver- tigo and fainting fits. Health has been entirely restored.
4 W.	B. C.	46	Jan. 4, 1891.	M.			Cancer of the ovary.	Exploratory laparotomy	No.		R.		Large cancerous cysts studied the peritoneum and intestines. Ovaries had undergone malignant degenera- tion. Abdominal fluid was removed the cavity flushed. Patient returned home in three weeks much improved.
5 W.	P. N.	47	Jan. 9, 1891.				Subperitoneal fibroids	Myomectomy, oophorectomy.	No.		R.		Had been bed-ridden for six months, though sick for years. Uterus was retroflexed by a fibroid the size of a hen's egg, on the upper posterior aspect of the fundus. This was re- moved. A small fibroid located on posterior wall of uterus. Hence oo- phorectomy. Result permanently good.
6 W.	R. S.	32	Jan. 28, 1891.	M.	5		Gonorrhœal pyosalpinx.	Removal of both ovaries and tubes.	No.		R.		On the fourth day after operation menstruation seemed to be at hand and lasted four days. Made an ex- cellent recovery and has seen no show since.

ABDOMINAL SECTIONS—BALTIMORE CITY HOSPITAL.—Continued.

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THOMAS OPIE.

NO. AND COLOR.	NAME.	AGE.	DATE.	SINGLE OR MARRIED.	CHILDREN.	MISCARRIED.	DISEASE.	OPERATION.	DRAIN.	COMPLICATIONS.	REC'D.	DIED.	REMARKS.
7 B.	S. J.	21	Feb. 2, 1891.	S.			Gonorrhoeal double pyo- salpinx. Ex- tensive adhe- sions.	Removal of both ovaries and tubes.	Yes.	A pus tube burst. Hæmorrhage was very great.		D.	Patient died of sepsis on the third day. The whole of Douglas' cul-de- sac was denuded, and from this sur- face copious hæmorrhage ensued. Bleeding was arrested by packing with iodoform gauze.
8 W.	S. A.	22	Feb. 9, 1891.	M.			Gonorrhoeal salpingitis, chronic ovaritis.	Removal of both ovaries and tubes.	No.		R.		Anæmia most pronounced; com- plexion wax; general health very bad, so much so as to render doubtful the advisability of operation. The gravity of the case stated to the friends. The results most satisfactory.
9 W.	S. B.	28	Feb. 22, 1891.	Widow.			Ovarian tumor.	Removal of tumor and other ovary.	No.	Slight stitch ab- scess.	R.		Made a complete recovery. Have seen her lately in good health. Has resumed her wonted weight and vigor.
10 W.	W. S.	50	Mar. 19, 1891.				Ovarian tumor. Peritonitis.	Removal of tumor and other ovary.	No.			D.	Patient called six weeks before op- eration and was, in view of the great abdominal development, advised to accept immediate operation. When she arrived she was suffering with peritonitis. Death took place two hours after the operation from surgical and chloroform shock.
11 W.	T. V. L.	48	April 20, 1891.	M.			Fibro-cystic tumor of uterus.	Abdominal hysterectomy.	No.		R.		Incision 14½ inches. Tumor weighed 20 pounds; its vertical circumference was 23½ inches, and its transverse 22¾ inches. Treated stump extraperito- neally. Temperature did not reach be- yond 99°, nor pulse below 80. Recov- ery was uninterrupted and complete.
12 W.	H. J.	21	April 21, 1891.	S.			Chronic ovaritis, dys- menorrhœa.	Removal of both ovaries.	No.		R.		Had been bed-ridden for over six months. Had been a sufferer with dysmenorrhœa since 17, when her men- struation began. She gained in weight and was cheerful for a while, but re- lapsed into the same neurotic state as before operation. Improved physically, not mentally.

13 W.	S. M.	35	April 26, 1891.	M.	5	Uterine retroflexion. Abscess involving right tube and ovary discharged through rectum. Painful mass on right side of pelvis.	Removal of both ovaries, including the cellutic mass, involving the right ovary.	No	R.	Hæmorrhage readily controlled. Blood removed thoroughly by sponges, which had been packed in cul-de-sac. No drainage, no flushing. Temperature did not rise above 100°. Stitches removed on tenth day. Recovery rapid. In five months has increased in weight from 130 pounds at time of operation to 160 pounds. Health excellent.
14 W.	A. B.	23	May 9, 1891.	S.		Dysmenorrhœa, anæmia, metrorrhagia.	Removal of both ovaries and tubes.	No	R.	A factory hand who had been compelled to quit work on account of ill-health. Has been able to resume work. Is in good health and spirits.
15 W.	S. E.	28	May 11, 1891	M.	3	Ovarian tumor of right ovary; left ovary had a cyst in it containing 10 ounces fluid.	Removal of tumor and the other ovary.	No.	R.	Made an excellent recovery except as to the delay from the stitch abscess.
16 W.	W. A.	22	May 20, 1891.	S.		Chronic ovaritis, dysmenorrhœa, anæmia.	Removal of both ovaries and tubes.	No.	R.	Elevation of temperature continued successfully by salines. Two stitches removed on fifth day, and the others on seventh day, because of redness around them. Superficial suppuration continued two weeks; healing rapid. Thorough recovery.
17 W.	S. K.	20	June 3, 1891.	S.		Epileptiform spasms, Dysmenorrhœa.	Removal of both ovaries and tubes.	No.	R.	Menstruation began at 15, since then had been at every recurrence subject to fits. A number of distinguished nerve specialists in New York and elsewhere had treated her. Massage, electricity, drugs, all alike failed. Recovery from operation excellent. Cure incomplete.
18 W.	V. M.	18	June 18, 1891.	S.		Acute mania, dysmenorrhœa.	Removal of both ovaries and tubes.	No.	D.	Had periodical attacks of mania with menses since first appearance at 15. Six months ago was in an insane asylum. A few days after operation, acute mania set in. She died the eleventh day after operation.
19 W.	S. M. J.	25	July 4, 1891.	M.		Traumatic peritonitis, retroflexion, displaced and diseased ovary.	Removal of both ovaries and tubes.	No.	R.	Uterus retroflexed and bound by adhesions in its malposition. Had cystitis. Was always in pain. Menstruation painful and irregular. Cause: A fall when 14 years old. Recovery complete.

ABDOMINAL SECTIONS—BALTIMORE CITY HOSPITAL.—Continued.

NO. AND COLOR.	NAME.	AGE.	DATE.	SINGLE OR MARRIED.	MISCARRIED.		DISEASE.	OPERATION.	DRAIN.	COMPLICATIONS.		REC'D.	DIED.	REMARKS.
					CHILDREN.									
20 B.	D. K.	42	July 18, 1891.	S.			Ovarian tumor.	Removal of tumor and the other ovary.	No.		Stitch abscess.	R.		Patient noticed the growth six years ago, but did not know what it was. It was claimed by her that menopause came on at 36, and growth was more rapid the last three years. When she left the hospital the abscess had not completely healed. Recovery is complete.
21 W.	W. A. S.	16	July 29, 1891.	S.			Ovarian tumor.	Removal of tumor and the other ovary.	No.		Stitch abscess.	R.		Patient noticed her abdomen was growing larger when she was 12. She had her menses last winter several times, but the flow was scanty. Her periods were irregular. Had an interrupted and rapid recovery.
22 W.	L. C.	25	Sept. 1, 1891.	M.			Cancer of left ovary, involving the intestines.	Exploratory laparotomy.	No.			R.		Found a large cancerous mass in the left side, involving the liver as well as the ovary. Closed the abdomen. Recovered sufficiently to go home.
23 W.	W. E.	23	Sept. 2, 1891.	M.			Both ovaries cystic. The left mass of cysts displaced in posterior cul-de-sac and adherent.	Removal of both ovaries and a foetus of six weeks	No.		Pregnancy.	R.		Examination disclosed enlarged and cystic ovaries. Her physician had palpated the uterus and was satisfied she could not be pregnant. She had had three miscarriages in the first third of gestation. Determined after conference to remove the foetus and continue operation. Result excellent.
24 B.	R. R.	27	Sept. 9, 1891.	S.			Intramural fibroids. Dysmenorrhoea, menorrhagia alarming in extent.	Removal of the ovaries.	No.		Stitch abscess.	R.		Had expected to do a hysterectomy, as uterus was large and it was unlikely that the ovaries could be reached, but both were in front and easily removed. Patient had some metritis for several days, but made an excellent recovery.
25 W.	R. A.	33	Sept. 24, 1891.	M.	2	1	Retroflexion, prolapsed ovaries, dysmenorrhoea.	Oophorectomy. Hysterorrhaphy.	No.		Stitch abscess.	R.		Had suffered for years from retroflexion and prolapse of ovary; was disabled for all duty. Removed both ovaries and stitched the uterus to the abdominal wall. Made a good recovery.

ABDOMINAL SECTIONS—BALTIMORE CITY HOSPITAL.—Continued.

26 W.	M. O.	33	Sept. 26, 1891.			Peritonitis, hæmatocele, abortion.	Exploratory laparotomy.	No.	R.	Time of operation, temperature 102°. It began to fall at once. In three weeks the exudates were removed. Made a perfect recovery.
27 B.	C. M.	39	Oct. 8, 1891.	Widow.	1	Chronic ovariitis, dysmenorrhœa.	Oöphorectomy.	No.	R.	Nothing worthy of comment, save relief from pain and promise of complete recovery.
28 W.	S. M. L.	32	Oct. 18, 1891.	M.		Cyst in broad ligature.	Laparotomy for removal of cyst.	No.	R.	Same case as operated on July 4, 1891. Cyst of broad ligament, containing serum, removed. Entire relief from pain. Recovery uninterrupted. Is now sitting up.
29 W.	G. L.	32	Oct. 18, 1891.	M.	1	Extrauterine pregnancy.	Laparotomy, removal of sac, with placenta and both ovaries.	Yes.	R.	Four months had scanty, irregular and painful menstruation. She was compelled to go to bed one month ago, complaining of a large sac in left iliac region strongly adherent to surrounding structures, involving tube and ovary. Microscopic examination showed placental tissue; drain tube used twenty-four hours. Recovered.
30 W.	B. L.	37	Oct. 25, 1891.	M.	4	Pyosalpinx.	Removal of both ovaries and both tubes.	No.	R.	Had a clear history of gonorrhœa; was under dispensary treatment three months. Flushing was used; no drainage. Recovered without unfavorable conditions.
31 B.	B. M.	32	Oct. 27, 1891.	M.	1	Ovarian abscess.	Extirpation of abscess, sac and other ovary and tube.	Yes	R	Sac filled pelvis nearly to the umbilicus, was at every point adherent to uterus, intestines or abdominal wall—was enucleated by the hands rather than the knife. Drainage tube used twenty-four hours. Her recovery is to be regarded as phenomenal.
32 W.	W. M.	37	Oct. 29, 1891.	M.	3	Fibro-cystic tumor of uterus.	Abdominal hysterectomy.	No.	D.	Tumor began to show five years ago. Since then has been suffering profuse hæmorrhages. Was supposed to be an ovarian tumor. Got through operation well. The stump secured by the Barker Brown clamp. No bleeding. About the fifth day temperature up to 103°; pulse 150. Death took place on the seventh day from peritonitis.

Lacerations of the Perinæum, with Statistics and Observations.

BY ALICE MACLEAN ROSS, M.D.,

Resident Physician in the Woman's Hospital, Detroit.

THERE are presented below a few statistics gathered from the official records of the Woman's Hospital which, I believe, will be of general interest. Statistics are unsatisfactory as a rule, but they aid us in arriving at general conclusions, and assist us in prognosis. These figures relate only to primiparæ, and the facts brought out by them may be surprising to many practitioners. The whole number of primiparæ confined during the last five years in the Woman's Hospital was 197. Of these,

85 were from 16 to 20 years.

72 " " 20 " 25 "

40 " " 25 " 35 "

Whole No. of in confinements in 1887	21
No. recorded to have sustained laceration of the perinæum	
Percentage of lacerations	38
Whole No. of confinements in 1888	52
" " lacerated " "	19
Percentage of lacerations " "	36.5
Whole No. of confinements in 1889	44
" " lacerated " "	10
Percentage of lacerations " "	23.0
Whole No. of confinements in 1890	54
" " lacerated " "	14
Percentage of lacerations " "	25.9
Whole No. of confinements in 1891	26
" " lacerated " "	6
Percentage of lacerations " "	23.0

Ages of those who were lacerated:

16 to 21 years	31
20 " 25 "	25
25 " 35 "	8
Percentage of those lacerated between 16 and 20 years	36.46
Percentage of those lacerated between 20 and 25 years	34.65

Percentage of those lacerated between 25 and 35 years. 20.00

Whole No. of primiparæ lacerated 64.

" percentage of primiparæ lacerated in the Woman's Hospital 32.48

The physicians who have had these cases in charge were young graduates. They were assisted, only in difficult cases of labor by the visiting staff, and so in the majority of cases had full charge. It is presumed that they were more or less unskilled in obstetrical matters, for they had come to the hospital for the purpose of gaining experience, consequently they were unskilled in prevention of rupture of the perinæum. It cannot be said with justice, however, that they were guilty of meddlesome interference. The conditions on the whole were favorable for an accurate report of these cases, for it was to the best interest of each attending physician to search for a tear in order to fulfil his duty by sewing it up. I believe that this record shows, as nearly as can be ascertained, what happens in the ordinary course of events in this matter. It shows that about 33 per cent. of all women who bear children for the first time suffer laceration of the perinæum. When I first compiled these statistics, I was astonished at what seemed to me an exceedingly large percentage, for I had heard old and respected physicians affirm that they had never had a lacerated perinæum in their practice. These brethren

have never taken the trouble, in all probability, to look for a tear, however, as the estimate that I present was confirmed by other reports and by the opinion of eminent gynæcologists. To these figures must be added the lacerations that occur in labors subsequent to the first. The total percentage then will be somewhat larger. These facts strongly urge us to take greater precautions to prevent lacerations and to examine carefully in every case to see whether or not the perinæum is left intact. It is not my purpose now to discuss methods for preventing lacerations, nor the proper time and best method of repair. I wish merely to show that in about 200 labors in the Woman's Hospital, about one-third of the patients suffered laceration of the perinæum in a greater or less degree, and I believe that these figures represent the average percentage in all such cases where there is no skilled assistance.

It will be observed also that the proportion of women torn is greater in those who are between 16 and 20 years than between 25 and 35 years. This is not in accordance with the general drift of opinion. I regret that I have not been able to make a record of some observations that I have made

regarding the relation of laceration of the perinæum to the complexion, so I can only express them in a general way. My attention was first called to these facts by Dr. Walter J. Cree, Consulting Physician to the Hospital, and I have since watched for these relations, and my observations coincide with his. I have observed that those women who possess dark hair, red cheeks, red lips and a bright clear skin are most liable to tear and also most liable to suffer from cracked nipples. Their tissues seem to be tender and friable rather than elastic and tough, and will part instead of stretching, and their skin is thin and does not resist the friction of the child's mouth. These facts are to me so marked that I have been able to predict torn perinæum and sore nipples many times. Those blondes who have a sallow skin with a tendency toward a deposit of pigment are the least vulnerable and seldom or ever have sore nipples. Red-haired women are included in the first class. Those who are not included in either category are more or less liable to suffer according as they lean toward one type or the other. This relation is useful to those who observe it merely in being an indicator of the necessity of extra prophylaxis.

The Pan-American Medical Congress in the United States of Colombia.

PURSUANT to nominations by Dr. Pedro M. Ibañez, of Bogota, member of the International Executive Committee for the United States of Colombia, the following organization of the Pan-American Medical Congress has been effected in that country: *Vice-President*, Dr. Pio Rengifo,

New York; *Secretaries of Sections*: *General Medicine*, Dr. Ignacio Gutierrez Ponce, Paris; *General Surgery*, Dr. Rafael Rocha Castilla, Bogota; *Military Medicine and Surgery*, Dr. Abraham Aparicio, Bogota; *Obstetrics*, Dr. Joaquin Maldonado, Bogota; *Gynæcology and Abdominal Surgery*,

Dr. Jose M. Buendia, Bogota; *Therapeutics*, Dr. Manuel Plata Azuero, Guaduas; *Anatomy*, Dr. Joan D. Herrera, Bogota; *Physiology*, Dr. Antonio Bargas Vega, Bogota; *Pathology*, Dr. Nicolas Osorio, Bogota; *Diseases of Children*, Dr. Ant. Gomez Calvo, Bogota; *Ophthalmology*, Dr. Proto Gomez, Bogota; *Laryngology and Rhinology*, Dr. Luis Fonnegra, Bogota; *Otology*, Dr. Carlos Esguerra, Bogota; *Dermatology*, Dr. Daniel E. Coronado, Bogota; *Orthopædics*, Dr. Juan E. Manrigue, Bogota; *Naval Hygiene and Quarantine*, Gabriel I. Castaneda, Bogota; *General Hygiene and Demography*, —; *Mental and Nervous Diseases*, Dr. Pablo Garcia Medina, Bogota; *Oral and Dental Surgery*, Dr. Guillermo Vargas Paredes, Bogota; *Medical Pedagogics*, Dr. Jorge Vargas, Bogota; *Medical Jurisprudence*, Dr. Leoncis Barrets, Bogota.

THE INTERNATIONAL EXECUTIVE COMMITTEE OF THE PAN-AMERICAN MEDICAL CONGRESS.

The Committee on Organization of the Pan-American Medical Congress at its meeting at St. Louis, last October, elected the following International Executive Committee: *The Argentine Republic*, Dr. Pedro Lagleyze, Buenos Aires; *Bolivia*, Dr. Emelio di Tomassi, La Paz; *Brazil*, Dr. Carlos Costa, Rio de Janeiro; *British North America*, Dr. Jas. F. W. Ross, Toronto; *British West Indies*, Dr. James A. De Wolf, Port of Spain; *Chili*, Dr. Moises Amaral, Santiago; *United States of Colombia*, Dr. P. M. Ibañez, Bogota; *Costa Rica*, Dr. Daniel Nuñez, San José; *Ecuador*, Dr. Ricardo Cucalon, Guayaquil; *Guatemala*, Dr. José Monteris, Guatemala Nueva; *Haiti*, Dr. D. Lamothe, Port-au-Prince; *Spanish Honduras*, Dr. George Bernhardt, Tegucigalpa; *Mexico*, Dr. Tomás Noriega, City of Mexico; *Nicaragua*, Dr. J. I. Urtecho, Grenada; *Peru*, Dr. J. Casamira Ulloa, Lima; *Salvador*, Dr. David J. Guzman, San Salvador; *Spanish West Indies*, Dr. Juan Santos Fernandez, Habana; *United States*, Dr. A. Vander Veer,

Albany, N. Y.; *Uruguay*, Dr. Jacinto De Leon, Montevideo; *Venezuela*, Dr. Elias Roderiguez, Caracas.

Hawaii, Paraguay, Santo Domingo, the Danish, Dutch and French West Indies are not yet organized. Nominations of local officers have been received from a majority of all the members of the International Executive Committee, and a number of the lists have been confirmed by the Committee on Organization. These will be announced as rapidly as acceptances are received.

CHARLES A. L. REED,
Secretary-General.

Cincinnati, January 15, 1892.

Auxiliary Committee (each member being the official representative of the Congress in his respective city): Dr. Nicolás Osorio, Dr. Andrés Posada Arango, Dr. Jorge E. Delgado, Dr. Eugenio de la Hoz, Dr. Domingo Cagiao, Dr. José Manuel Rodríguez, Dr. Paulo Emelio Villar, Dr. Felix M. Hernández, Dr. Rafael Calvo, Dr. N. Ribón, Dr. Milceades Castro, Dr. Cayetano Lombana, Dr. José M. Martinez, Dr. Isaias Saavedra, Dr. Severo Forres, Dr. N. Villa, Dr. Everisso Garcia, Dr. Miguel Caicedo, Dr. Emilio Villamizar.

The following medical societies have been elected as auxiliaries of the Congress, viz.:

Academia nacional de Medicina, *Academia de Medicina de Medellín*, *Sociedad de Medicina del Cauca*.

The following journals have been designated as official organs of the Congress, viz.:

Revista Médica, Bogota; *Revista de Higiene*, Bogota; *El Agricultor*, Bogota; *Boletín de Medicina del Cauca*, Cali; *Anales de la Academia de Medicina de Medellín*, Medellín.

The expressed wish of the profession of the United States of Colombia is for a date of meeting during the Columbian Exposition.

CHARLES A. L. REED,
Secretary-General.

Cincinnati, January 17, 1892.

PHILADELPHIA OBSTETRICAL SOCIETY,

December 17, 1891.

PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

DR. CHARLES P. NOBLE :

A YEAR'S WORK IN ABDOMINAL SURGERY
AT THE KENSINGTON HOSPITAL FOR
WOMEN.

In presenting this outline report of my last year's work in Abdominal Surgery at the Kensington Hospital for Women, I shall pay special attention to certain general principles and a few technical details, and I shall avoid a mere enumeration of the cases. In this way I hope to have some doubtful points made plain in the discussion, and at the same time to present something which may prove of interest to the Society.

During the fiscal year, October 13, 1890, to October 12, 1891, fifty-two (52) abdominal sections have been done for the following morbid conditions :

Fibroid Tumors	3
Salpingitis.—Chronic Salpingitis and ovariitis (with adhesions in 8 cases)	12
Pyosalpinx—single	2
double	1
Hæmatosalpinx	1
Hydrosalpinx (double)	2—18
Ovarian Tumors—Single, 6 Double, 2 Treble, 1	9
Tubercular Peritonitis	2
Broad Ligament Cyst with Chronic Salpingitis	1
Rudimentary Appendages	3
Hypertrophic Cirrhosis of Ovaries	2
Pelvic Abscess	1—18

MIXED CASES.

Ovarian Tumors, complicated by—	
Salpingitis	3
Pyosalpinx	2
Hæmatosalpinx	2
Malignant Disease of Pelvis	1—8
Cancer of Colon	1
Tubal Pregnancy	2
Ventral Hernia	1
Pelvic Cellulitis	1—5
Total	52

Operations :

Both Uterine appendages completely removed	33
One appendage completely removed	8
On one right ovariectomy for cyst, left ovariectomy had been done two years previously by Dr. Kelly	
Hysterectomy for œdematous myoma	1
Simple Sections :	
Exploratory—Myoma	1
Pelvic Cellulitis	1
Pelvic Abscess	1
Cancer of Colon	1
Fluid—Tubercular Peritonitis	2
Hernia	1—7
Uterine Appendages Incompletely Removed—	
Piece of Ovary left	2
One Ovary left	1—3
	52

Forty-eight cases or 92 per. cent. were drained.
There were four deaths.

The first death was in a case of suppurating intra-ligamentous ovarian cyst. The operation was done four weeks after delivery. It was a very difficult and tedious operation, and the patient died in less than twenty-four hours in hyperpyrexia. The temperature went up rapidly and reached 107° twenty-two hours after the operation. I may say that the patient was thoroughly irrigated and drained, but she died undoubtedly septic.

The second death occurred in a case of triple ovarian cyst. On the right side was a large ovarian cyst containing twenty-two quarts, and on the left side two cysts connected with the ovary—something that I had never seen before. She also had a myoma as large as my head. The case is detailed in the paper. She died five hours after operation.

The next death was in a carcinomatous ovarian cyst. It was the case to which I have referred in this society, as one in which there was terrific hæmorrhage. The cyst was ruptured before the cancer was detected. When

the tumor was lifted out, the whole broad ligament was torn off and the blood poured out in a stream from the incision. It was one of the cases in which I ligated both ends of the broad ligament with great satisfaction. She died of peritonitis on about the sixth day.

The next death was a case of hæmatosalpinx on one side and hydrosalpinx on the other. There was slight hæmorrhage after the operation, but apparently not enough to necessitate reopening. She died septic. I believe it would have been better practice to have reopened the abdomen when the septic symptoms appeared, and to have irrigated and drained.

The technique employed is that which I detailed in a recent paper, read before the Philadelphia County Medical Society. In brief, asepsis is considered the *summum bonum* to be obtained without injuring the patient with chemical solutions. Steam is used as a sterilizer so far as practicable, prolonged scrubbing of the hands with soap, water and nail-brush, and then the use of saturated permanganate of potash solution, and saturated oxalic acid solution, followed by peroxide of hydrogen solution and corrosive sublimate solution. Gauze, sponges and ligatures are sterilized by means of chemical solutions, which solutions are washed out in plain boiled water before these materials are used in operations. Sponges are used but once, and then destroyed. Ligatures and sutures (silk) are boiled before each operation. The patient's abdomen is thoroughly scrubbed with soap and water, and alcohol, and washed with sublimate solution before she leaves her room, and after she is on the table it is again washed with soap and water, the abdominal and pubic hair is shaved and the abdomen is douched with sublimate solution. As competent bacteriologists have showed the difficulty, if not the impossibility, of disinfecting the patient's and the surgeon's skin, it is felt that every care must be taken to approach *asepsis* as nearly as possible. After operation is once begun, only plain boiled water is used, unless it be to disinfect some limited area, as a pedicle stump.

The operations herewith reported have been done for disease only, and all the uterine appendages removed were the seat of demonstrable lesions. Operation was refused no patient having grave diseases, except those

with Bright's disease; and the appendages were removed for minor disease of the ovaries in no case except after the failure of less radical treatment. But while I still adhere to this position, a growing experience influences me to doubt the wisdom of maintaining it too strictly. When women are far advanced towards death from neglected pelvic disease, there comes a time when surgery offers them little, if any, hope, except the hope of a speedy release from suffering. Under these circumstances the surgeon's duty is a painful and perplexing one. He should lay the truth before the patient and her friends, the almost certainty of early death without operation, the scarcely less than certainty of death with operation, and should promise only to faithfully apply his art. The patient and friends must decide for or against operation under these circumstances. When a woman has an ovarian tumor or other pelvic disease which will destroy her life, and yet—she being in good general condition—it can be removed with a minimum chance of death, it is the surgeon's duty not only to put the truth before her, but also to urge operation. But it seems to me that this is neither incumbent nor advisable when operation offers so little, as it does when the same patients are at death's door. Again, my experience inclines me to doubt the wisdom of too great delay in operating upon cases of defective ovarian and tubal development among the poor. Among the well-to-do, travel, horseback and other outdoor exercise and general roborant medication, if advised early—preferably before the age of twenty—may bring about development of these organs. Marriage under proper circumstances may be curative. But when a poor, ill-nourished, hardworking girl, past twenty-five, presents herself with a history of late puberty, irregular, painful menstruation, with various menstrual neuroses, sufficient to make her an invalid, the prospect of a cure by medical means is about zero. If palliative treatment does not give encouraging results promptly, the appendages should be removed before the menstrual neuroses render her a complete, incurable wreck.

Of the three cases of operation for rudimentary appendages done this year, one is too recent for mention. The first was done eleven and the second seven months ago.

CASE I.—Mill operative, aged 23, has been

under medical treatment more or less regularly for seven years, for violent dysmenorrhœa, which so exhausts her that she is in torture or is miserable two weeks out of four. Menstruation appeared when she was between 16 and 17, and for two years came every two weeks. It was never regular. As palliatives she has had medication, hysterorrhaphy (for retroflexion) and dilatation of cervix, none of which were of special avail. Operation November 23, 1890. Uterus, tubes and broad ligaments, small; ovaries, cystic and cirrhotic, slightly enlarged. She has been absolutely cured, and is now in training as a nurse.

CASE II.—Clerk, aged 35, menstruant at 14 years, three months, then skipped for a year; she has had painful menstruation for nineteen (19) years; severe pain one week before and during the flow. She has been growing steadily worse, and suffers now three weeks out of four; has been under constant medical care for seven and a half years. Aside from medication, general and local, she has had electricity by one of its strongest advocates, the rest-cure for thirteen weeks under a neurologist, dilatation of the cervix and removal of a post-cervical fibroid—all this failed to relieve her. The appendages were removed March 23, 1891. The uterus, tubes, ovaries and broad ligaments were ill-developed. October 29 she reports herself as getting fat and strong, and free from all her former suffering, except occasional headache.

Two cases deserve a report as showing markedly the bad results of delay and neglect in the treatment of pelvic disease.

Mrs. J., aged 54, ix-para, consulted me June 27, 1891. She was brought from Western New York. The conditions were as follows: The abdomen was enormously distended, with three areas of resistance and dullness. The right leg was œdematous. Orthopnoea was marked. The pulse varied from 110 to 120. There were complete anorexia, and obstinate vomiting, which had persisted for weeks. The bowels and kidneys were inactive. The patient was evidently approaching death by reason of starvation and suffering. She had suffered from menorrhagia between the ages of 48–51, and from menorrhagia and metrorrhagia from 51 to 54. During this time she was treated for change of life, then for a uterine polyp, and, finally,

for the dropsy. At this time she consulted Dr. P. G. Clark, of Unadilla, N. Y., who sent her to me. The prognosis given was early death without operation; probable death, even on the table, with operation. The patient was brave, and said if I thought she had a single chance she would take it. Operation disclosed a ruptured colloid cyst of the right ovary, with twenty three quarts of contents; also a myoma six inches in diameter, and two ovarian tumors with distinct pedicles growing from the left ovary. The ovarian tumors were removed. Death followed in five hours from exhaustion; or, rather, I believe, from cerebral anæmia, caused by the filling up of the portal vessels, when the immense pressure to which they had been subjected was removed.

The abdomen had been steadily enlarging for a year. A double ovariectomy, or a hysterectomy, for the soft myoma, done a year ago, would almost surely have saved her. She died a victim of superstition concerning hæmorrhages at the menopause, and of indifference or ignorance on the part of her attendant concerning a growing tumor within the abdomen.

The second case is of even greater interest, as belonging to a class concerning the treatment of which gynæcologists are not agreed.

Mrs. W., aged 42, ii-para, was seen first in October, 1890, at which time she had been confined to bed for eighteen months. The history is as follows: She was always well until the birth of her last child, sixteen years ago. At that time she had pelvic inflammation. Her health steadily deteriorated, and after a year she became a chronic invalid. For ten years she was treated for womb disease, ulceration of the cervix and nervous prostration, at the end of which time she was compelled to give up her business. For three years and a half the history was about the same, when menorrhagia became marked and electricity was used. Becoming worse, she went to bed and remained there a year and a half when I saw her. She complained of almost constant bleeding from the womb, marked pelvic pain, general debility and feeble digestion. I have never seen a more complete nervous wreck. On examination, the uterus was found enlarged and the appendages tender and somewhat adherent. The question was what was best to do for one so reduced in strength. I determined to

curette to control hæmorrhage, and, later, when she had recuperated, to remove the appendages. Operation November 5, 1890. The uterus was dilated slightly, it being very hard and unyielding. On introducing the curette I found that it passed up toward the umbilicus, showing that the uterus had been fractured by the dilator,—the only accident of the kind in my hands. With a double indication for section now present, I proceeded at once to stitch up the rent in the uterus and to remove the appendages. The ovaries were both cystic, and ovaries and tubes were imbedded in old adhesions—chronic ovaritis and salpingitis with adhesions. The patient did well, and is slowly regaining her health. She now superintends her household duties and looks forward to years of health and usefulness. Her improvement is progressive and in every way satisfactory. This case, added to others not dissimilar, has caused me to give up my doubts concerning the propriety of removing such diseased appendages. What folly to preserve such organs at the sacrifice of the possession of health! Mrs. W. has had ten physicians for periods varying from six months to two years, and seven others for a shorter time. So-called conservatism cost her fifteen years of suffering in the prime of life, has permanently sapped her vigor, has cost her several thousand dollars, worse than wasted, to secure useless treatment, has broken up her business and reduced her from a position of independence to one of poverty.

These cases are but types, illustrating the folly and hazard of delay; and the results obtained are in marked contrast to the beneficial results of early operation both for pelvic tumors and for pelvic inflammatory conditions.

When the uterine appendages are removed it is always desirable that the removal shall be complete. But when the broad ligament is shrunken by disease, or is short and inelastic from lack of proper development, not infrequently, when the ligature is applied in the usual way, in order to leave a sufficient bottom to provide against slipping of the ligature, it is necessary to leave a portion of the ovary in the pedicle. In some cases this will defeat the object of the operation (when done for fibroid of the uterus, or deficient ovarian development) and is always unfortunate. In such cases I have employed the

linked suture, with three or even four interlocking links, placed well down in the broad ligament. In this way the ovary may be excised completely.

The question of irrigation has given much cause for anxious thought. It seems to me that it is only a happy guess when we decide aright that the peritonæum is thoroughly irrigated, and the danger of septic peritonitis averted. For the lack of something more satisfactory, irrigation is used in all cases in which there has been a discharge of septic material into the pelvis. If the amount of septic material has been great, and there is reason to believe that it has spread through the bowels, the abdominal as well as the pelvic cavity should be irrigated. I believe that certain dangers attend irrigation. It certainly tends to spread septic material from the pelvis into the abdomen. This is best avoided by turning the patient on the side, and securing a steady out-flow of the water. Again, it is very sloppy, it prolongs operation and often increases shock. To avoid this, where it is necessary to irrigate the entire abdomen, and especially the small bowels, it is often well to enlarge the incision, let the bowels escape, and pour water directly upon them. In this way the cleansing can be done more quickly, and the additional room afforded greatly facilitates subsequent drying of the peritonæum by sponging. When the bowels have been covered with septic fluid, unless this is done, it must always be a matter of doubt as to whether they have been effectually cleaned.

The question of the septic or non-septic character of fluid in the abdomen is a most important one. On clinical grounds, I am inclined to believe that very much pus found in the pelvis is non-septic, and that this explains the apparent remarkable efficacy of simple irrigation. This opinion is supported by the fact that the "dry treatment" of these cases is by no means unsuccessful, and that microscopists fail to find bacteria in many specimens of pus.

In one instance, the abdomen was reopened on the fourth day for peritonitis. Symptoms of peritonitis appeared within twenty-four hours after the operation and became progressive. On the third day there was a chill and rise of temperature above 103° F., with corresponding tympany, pain and quick pulse. Until after the chill, the skin had been hot

and dry. It then became clammy and leaky. The abdomen was then reopened, adhesions between the coils of intestines and the left pedicle broken up, thorough irrigation employed and a glass drainage tube again introduced. The operation had been done for chronic salpingitis and ovaritis with adhesions in a syphilitic woman. She had had the disease over two years, and had been steadily taking mercury and iodide of potassium. At the operation a gumma was found under the left tube, and several were found in the omentum. The irrigation did not seem markedly to influence the course of the peritonitis. The woman was very sick for some weeks, but eventually recovered, and is now rapidly gaining strength. The peritonitis was evidently of the adhesive type, though doubtless septic in origin. I was led to reopen the belly by the occurrence of the chill and the subsequent leaky, clammy skin, indicating the absorption of septic material. This had been my guide in the past in reopening the abdomen; but in a number of cases in which the skin has remained hot and dry the patients have recovered without operation. When the skin has been cold and leaky and the temperature rising, death has followed when the abdomen was not reopened. In one other such case recovery followed reopening the abdomen, irrigating and draining.

DISCUSSION.

DR. B. F. BAER :

I wish to express the pleasure I had in listening to this interesting paper, and there are several points that I would like to discuss. The statement of Dr. Noble, that he drained in ninety-two per cent. of the series of cases just reported, is rather startling to me, for I am sure it was unnecessary and therefore harmful. It was a great and unnecessary annoyance to himself, even if no harm were done to the patients. I feel certain, however, that it did harm the patients. If in no other way, it did so because it was necessary in consequence to compel them to maintain the dorsal position. The greatest discomfort and suffering after laparotomy comes from the necessity, where drainage is used, to keep the patient upon the back. When the drainage tube is not employed, this is not necessary, and the patient is therefore far more comfortable. If the patient desires, and there is no contraindication, she should be turned

on her side within twenty-four hours after the operation—sometimes as early as twelve hours.

I believe that in one of the cases of sepsis mentioned the drainage tube was the cause. I believe that this is a cause of sepsis in many cases. I am also certain that it is the cause of fistula in some cases. I know that it was in two of my own. In one I reopened on the fourth day on account of fecal fistula. Failing to find the opening in the bowel after patient search, I closed the abdomen without drainage, except from the fecal fistula, and the patient made a good recovery, proving that drainage of the peritoneal cavity in the first place was not necessary.

During the year covered by this report, I have had many cases as bad as those here described; but within that period I did not drain in probably more than one per cent. of the operations. In one case of double ovarian abscess, in which the tumors were as large as the double fist, one of them being impacted and adherent deep in the pelvis, and each containing a pint of the most fetid pus, I placed a drainage tube; but as nothing drained, except a little sweet serum, I removed the tube a few hours afterwards. The patient had been septic for months, and had a temperature of 102° before the operation. She went home four weeks afterward, and remains well. Irrigation was kept up during the operation, and it rendered drainage unnecessary.

I cannot agree that it would be wise to increase the length of the incision, merely to render the irrigation more thorough. I think it might increase the danger of sepsis rather than diminish it. I believe in drainage where it is necessary, but I find it less and less necessary as my experience increases and my technique improves. I may drain in the case that I shall operate on to-morrow, but if I do, it will prove to be a case of very peculiar character. I do not regard anything as septic that is clean, and if the pelvic and abdominal cavities are clean before the incision is closed, there will be far less danger of septic infection than if a drainage tube is used. Decomposed pus is septic, healthy pus is not. A little blood, so slight in amount that the sponge is scarcely stained, will not cause sepsis. If the tumor, ovarian or tubal, containing fetid pus is removed and the pelvic cavity left clean, drainage is unnecessary.

Because I believe in scrupulous cleanliness I do not use a nail-brush. I am afraid of it. If I could have a new one for each operation, and my assistants and nurses could each have the same, I might go back to the use of it, but this is impracticable. For a long time I have used simply a file to keep my nails in perfect condition. They are short and clean when I leave my office. Thorough washing with soap and water is sufficient to keep the hands in proper condition. The doctor stated that he sterilized everything except the sponges. I think the sponges would require sterilizing if anything did.

Reference was made to puncturing the uterus with the curette. I do not understand how the uterus could be perforated by the curette unless unwarrantable force were used, or unless the organ were very soft, in which case the curette should not be used.

DR. GEO. BOYD :

In regard to the use of the drainage tube, it appears to me that the frequency will depend partly upon the fact of whether the operator is doing his work in a hospital, and has the advantage of careful watching of the tube, or whether he has been working in private. It seems to me that in hospitals the drainage tube is used more frequently, and I think that with the skilled nursing and the better care at the hospital it might be used more freely than at the patient's home. Surely there is an advantage in the use of the drainage tube. If there should be hæmorrhage, as occasionally occurs, there would be a visible appearance of it. If we close all our cases we have only the pulse as an indication of hæmorrhage. That is one of the advantages in using the tube, and it is a strong claim for its use if it can be kept carefully clean. Where the operation is done at the patient's home it may be better to close the abdomen and run the risk of hæmorrhage and the necessity of reopening the case subsequently if hæmorrhage or other complications occur.

DR. JOSEPH HOFFMAN :

It appears to me that the discussions here are valuable, and the papers are valuable, so far as they teach or suggest something that has not been so far suggested, or that is an improvement in our work. When we hear an operator advocating this or that procedure,

and give reasons for it, and another gets up and contradicts him, but gives no reasons, I am inclined to think that it is time wasted. That, I hold, is the attitude of Dr. Baer's discussion. Dr. Baer practically negatives drainage entirely. There is no way of arriving at a decision in what cases drainage is advantageous and in what disadvantageous. If we take up some of the bugbears to which drainage is said to give rise, such as sepsis, peritonitis, general or local, hernia and fistula, and look at it from the standpoint of those who thoroughly believe in drainage, we find that in their eyes there is scarcely any danger of producing such calamities. It is easy to understand how, if a man does not believe in drainage, he may readily attribute everything to the drainage tube. The calamity that arises he traces to its use. Hernia comes where there has been no drainage, fistula also occurs where drainage has not been employed. It is not fair to attribute those accidents to the drainage tube. If one operator drains in 92 per cent. of his cases and another drains in 8 per cent., there is simply a difference in the horizon of these two men. They do not see things alike. The question is, which is correct, which has the best results on his side? I hold that it is the man who gives reasons for the faith that is in him. He is the man we should logically follow. The contradictor is not always the proper one to follow.

Take the question of the position of the patient. Dr. Baer does not believe in the position on the back, but still he does not give us his reasons. If we take the experience of nine out of ten operators we shall find that it is only in the first twenty-four hours that the patient complains, and after that time he can not get her in any other position than on the back. She is not comfortable anywhere else. I operated on a lady a week ago to-morrow. She has not been off her back, and is only comfortable when on her back. There is reason for the patient's preferring a position upon her back. Take a case where both broad ligaments have been tied and place the patient upon her side. There will be a strain upon one ligament. If the patient is kept upon her back the tension will be equal. The position on the back is also a safeguard against hæmorrhage. In regard to this matter of putting two or three loops on the broad ligament, I do not think it is necessary.

Neither is it necessary to leave a piece of the ovary in order to get a good pedicle. This is shown by cases where the inflammation has extended up in the uterus, and where you must cut into the cornu of the uterus. In such cases there is no use for more than a single ligature, and you can go that close in every case. It has seemed to me that in these cases the patients have less discomfort than when the ligature is further from the uterus.

In regard to hand-disinfection, I myself cannot see why, if water that is boiled at a temperature of 212° F. is sterilized, we should put our instruments into a German oven and heat them up to a temperature of 300 or 400. There is no sense in that. Another thing. Take any suppurative process. Take, for instance, appendicitis in which we remove the appendix and where there has been a suppurating mass in the pelvis. We do not flush that pelvis out with bi-chloride or other chemical solutions, but we put in a drainage tube, and we expect that if no unlooked-for complications occur the patient will get well. Yet if it is not necessary to chemicalize our apparatus in order to get rid of foetid material, why is it necessary to do so with our fingers? This is proved by the statistics of Tait and other operators who do not use chemicals. It is proved by the experience of those who used chemicals formerly and do not use them now, and whose results are as good as they were before.

What are we to think about flushing the abdomen? Dr. Noble thinks that it sometimes increases shock. I can only see one way in which it might increase shock, and that is by having the water either too hot or too cold. Extremes are to be avoided. I have so often seen the beneficial effects of flushing, so far as the elimination of shock is concerned, that I do not believe that it will cause shock if correctly employed. I admit that there is apparently some danger of washing septic substances throughout the abdomen, but I think that this does not often obtain. I have never lost a case by sepsis that I have flushed and drained, but I have lost one case which I should not have lost if I had drained.

Another point, in regard to the presence of pus. The doctor has referred to the leaky and clammy skin as an indication of pus. In two cases in which there was presence of pus there was no leaky skin. One case

I opened too late. There was a septic source which was not suspected. The other cases recovered. In neither was leaky skin present. It is not wise to put this or that symptom down as always present.

In regard to the relative use of the tube, I do not think that it should be kept out of private cases and used only in hospitals. We should do this work where we can use the resources best calculated for the best interest of the patient. If it is needed in private practice it should be employed.

DR. WILLIAM EISTERLY ASHTON:

I cannot agree in regard to keeping patients on their back after section. They suffer greatly in this position, and I am always glad to get them out of it. I make it a rule after the first twenty-four hours to move the patient on one side or the other, supporting her by a pillow. Cases get along better under this method. This is natural. If we were to put a well person upon her back for a long time, suffering would result from the cramped position. A ligature applied to the broad ligaments is not a contra-indication to changing the position of the patient, as the amount of tension upon them would be practically nothing.

Dr. Hoffman is opposed to antiseptics in abdominal surgery. So am I. I do not believe that they are necessary, either for the preparation of the hands or for the preparation of the patient. If we could clean the abdominal cavity as well as we could our hands, we should have no deaths from sepsis. We cannot absolutely clean the abdominal cavity, although we do the best we can. We can practically clean our hands. It is true that there are colonies of bacteria below the surface of the skin which we cannot reach, but they do but little harm. I do not agree with Dr. Baer in his objections to the use of the nail-brush. The nail-brush, as found in most hospitals or in the satchels of surgeons, will generally be found to swarm with bacteria. We should be as careful in the preparation of the nail-brush as in the preparation of our instruments. If we clean our nail-brushes thoroughly and submit them to steam or dry heat, they are safe.

In reference to curetting of the uterus being followed by puncture, it may be interesting to note that when I was connected with the Jefferson College Hospital, a case was

brought to the clinic which had been punctured with a curette. No harm, however, came from this accident.

DR. JOSEPH PRICE:

I cannot permit the important subject of drainage to pass without saying something about it. I have many times been rather amused at the remarks of gentlemen criticising my views on drainage. A gentleman in Richmond, who has had thirty-two sections, with four deaths, remarked recently that Dr. Price, five years from now, would have abandoned drainage. Five years ago, perhaps, some one said the same thing. Still my faith, as strengthened by increased experience, is as strong as before. As I have said on other occasions, if you were to take drainage from me I should give up abdominal and pelvic surgery. I am simply proud of my use of the drainage tube, my faith in it, and my knowledge of the subject. I use it about daily. I have used it for years about daily, and I can make almost any demonstration you desire of what it will do and how to do it. Last Sunday, in one case, I removed a small adherent ovarian cyst and finished the operation without drainage. In the second case I removed large pus tubes and ovarian abscesses with universal adhesions. In the cyst case I used no tube, while in the pus case I used a drainage tube. The pus case has given no uneasiness. Clean tongue, slow pulse and a cool skin. The cyst case has a coated tongue, and is rather restless. I have repeatedly demonstrated the value of drainage by placing these cases, the drainage and non-drainage, side by side. You can pick out the drainage and the non-drainage cases by simply looking at their tongues. If you give the subject of drainage that refinement of study and care its merit demands, you can make all these demonstrations satisfactory.

In regard to the value and importance of irrigation. This is not so easy to do thoroughly and carefully as many operators imagine. It is not necessary to open the abdomen and go in with a milking-stool and sit down to do it thoroughly. For a moment before irrigating, crowd the ether a little. See that the water is of a proper temperature and the patient is in a proper position for a free flush, and that your irrigator is a proper one, and that you know how to use it. I find it the exception that operators know how

to irrigate properly. The irrigator and the two fingers should form a trivalve speculum. By properly using it you will wash away all debris and filth, and if drainage follows nearly all cases will get well.

Dr. Hoffman has covered the ground in regard to solutions. Cleanliness is hard to obtain. It is costly. We cannot change our outer clothing daily. We walk the streets and the dust from horses, manure and everything else covers us. We can bathe and change our under-clothing, we may remove everything but our pants and wear aprons, but we are not always clean. Cleanliness is costly, and good abdominal surgery is more costly, and the man who does it in extravagance has the lowest mortality.

The man who buys a new brush every time and uses distilled water will do good work. I have known operators to take foul ligatures which have been wrapped in towels and throw them back into the bottle and use them again. These are the fistulæ men.

In regard to rest and quiet and the dorsal position, we come back to the old principle in surgery, that of rest, position and pressure. Those who have had a broken arm or leg know the importance of rest, position and pressure. I suffered three fractures of my right humerus some years ago, and I treat sections as that humerus was treated. If you remove the splint in twenty-four hours you cause pain, and if you change the position you also cause pain. The back position is the proper one. Greig Smith has spoiled the whole surgical world on that point. I am sorry that he gave his patients so much liberty. He was evidently dealing with simple cysts. If you simply shift the position of the patient a little, place a fresh cool draw-sheet, turn her pillows, assure her she is doing well, you will give her a comfortable night's rest, but if you turn her on her side and change her position, she will become restless and anxious and hard to control. If you aim at comfort for the patient as well as for the nurse and yourself, you will keep the patient on her back at the most absolute rest. After the first thirty-six hours she will not ask to be turned, and you will have no trouble. You can then make her strictly clean and comfortable and keep her so by placing her in a fresh bed daily.

Returning to drainage, but few of the tubes used or found in the shops are suitable.

Most men use the old-fashioned clumsy tubes. Tubes and perforations are too large. A week ago, in a neighboring city, I said to a prominent operator, "Break that whole box of tubes and let me send you some fine ones." Many of the tubes used are dangerous and unsuitable.

In regard to ligatures, tubes and irrigators, everything used in abdominal or pelvic surgery should be perfection itself. I operated on a patient to-day for a huge ventral hernia which was operated on eleven months ago and reported as cured. It is interesting to present specimens and discuss the pathology and clinical history shortly after operation, but it is a mistake to report cases as cured at that time. Two weeks ago a man presented specimens from two sections, and entered into the discussion in reference to the management of a certain class of cases. He flourished these two cases as a victory. Twenty-four hours later they were both dead. In regard to mortality, drainage, etc., Savage, Tait and Bantock have implicit confidence in drainage and the lowest mortality. Savage applies a drainage tube in about every case. Some good American operator recently visited him and asked why he drained such cases. He simply remarked that "they do better." Mr. Tait has not rejected drainage tubes in all cases. He does not use them so freely as years ago. Why? Simply because his preparation for the operation is the best, and second, that his operation is the best, that it is the shortest and simplest in every respect. He minimizes every danger. In his preparation for the operation he holds fast to his old superstition that the patient should be in bed for forty-eight hours before operation for preparation. He drains these patients before operation. He purges them and gives liquid nourishment. It is exceedingly difficult to distend a collapsed bowel. I have not had distention in my private hospital in eleven months except in two cases which were operated on without any preparation. Three days ago I operated for extrauterine pregnancy. The woman came on the Blue Line in the patrol wagon, and was taken to my hospital at night, and I operated at 9 o'clock the following morning. In this case there was no time for preparation, and there was a little distention of the abdomen. Again, after section avoid all fluids in order that you may remove the drainage tubes early. In spite of

your preparation, in spite of withholding food and fluids, and in spite of your care, you will find that a large quantity of fluid will flow through the drainage tube. The presence of the drainage tube does not prevent the peritoneal cavity from taking care of this fluid. Yet I recently did a section for universal healthy adhesion, and there was a great temptation to close the wound without drainage. There was a dense veil of adhesion over the tube and ovaries. It was difficult to find a point at which to begin. My better judgment, however, induced me to place a tube, and at intervals of half an hour the tube was cleaned and as much as one ounce of fluid removed each time, amounting to some six ounces in all.

DR. BAER :

Why does Mr. Tait not drain so much as formerly?

DR. PRICE :

As I have stated, Mr. Tait keeps his patients in bed forty-eight hours before operation, he purges them freely, thus emptying the alimentary canal, and withholds fluid after the section, and purges early after operation, if necessary. He relies upon these more than upon the drainage, but he still drains when clearly indicated. Mr. Tait has attained the acme of perfection in abdominal and pelvic surgery—he minimizes every danger. The shortest anæsthesia, the shortest operation.

Passing to the results of the German operators, we find that Martin reports seventy-two pelvic operations, with twelve deaths. Martin does not drain. He did not drain from above in these seventy-two sections. I think that in a few cases he plunged a trocar into the vaginal wall and drained from below. He did five more sections and lost two, making fourteen deaths in seventy-seven cases. Such a mortality would simply stay our hands. It would stay the hands of all successful abdominal and pelvic surgeons. I could not practice in this community with a mortality of fourteen in seventy-seven.

In regard to cleanliness. Early in my experience I used to pack everything in a bag which was kept clean inside and out. In the preparation of the patient I insist upon the greatest cleanliness of patient, nurse and environs. I hope some day to reduce nurs-

ing to the same system as the watch on a steamer, four hours on and six off. All my sections have two nurses for days or longer. I do not permit a nurse menstruating to take care of a drainage case. The chief nurse has a standing order to select two nurses not menstruating. I do not want a nurse to give personal attention to herself and attend to a drainage tube. One nurse looks after the patient and the other looks after the drainage tube and nothing else; she does not touch a cup or anything in the room, but keeps herself strictly clean for the care of the tube.

In suppurative forms of pelvic disease, by the careful use of irrigation and drainage, with skilful nursing, I keep my mortality at three per cent., refusing nothing. The same holds good in ectopic pregnancy, and vaginal and supravaginal hysterectomies. I am satisfied that, after good surgery, irrigation and well-placed drainage give us the most perfect results.

DR. J. M. BALDY:

In regard to cleanliness, it is folly to say that the hands are septic because bacteriologists find a few germs. If a large number of operations can be carried through without infection, the hands are practically clean, and the germs found by the bacteriologists cannot amount to much and are not to be feared. If a man cannot keep a nail-brush as clean as his instruments or sponges he has no business to use a nail-brush. I find it impossible to keep the nails clean without a brush. If the nails have no septic matter under them, water and soap are sufficient, but if they contain septic material, one cannot get rid of it without the brush. It is the same with instruments.

It is possible that irrigation may convey septic matter into the abdominal cavity, but this risk is lessened if you know how to irrigate. I have had only one case in which I thought that sepsis was carried in this way. In this case there was a local abscess around the stump of the omentum, requiring a secondary operation. In the vast majority of cases the water does not enter the abdominal cavity to any great extent. The intestines should be crowded back and held back with the fingers. Even if a small amount of pus is washed into the abdomen, it will do little harm, provided there is no raw surface. The peritonæum can take care of a considerable quantity of septic matter.

Twenty-four hours after operation patients do not complain so much of being left on their backs. They are better on their backs, and if you turn them, they complain of weight and pain in the incision. For the first twenty-four hours they do complain; but I think that they would be as uncomfortable on the side. It is more the tightness of the ligatures and the traumatism than the position. I have kept patients on their backs for a month, and there has been little complaint. After the first three or four days they complain very little.

If a man can operate and not occasionally leave a portion of the ovary in the stump, it is more than I can do. Where I have left it, I cannot conceive that I could have done anything else.

I do not believe that fistulæ occur where drainage has not been employed. Theoretically one might imagine that a fistula might occur where a drainage tube had not been employed; but if there is enough septic matter to reach the surface, the patient will die before it can do so, unless there has been drainage, and a weak track has been left for the pus to work up through.

Purging early after operation I find in my practice is a fallacy. I can not purge under two days. It is useless to give purgatives twelve to twenty-four hours after operation. As good results are obtained by waiting forty-eight hours as if we began six hours after operation. Although the calomel and salts be retained, the bowels are not moved.

Drainage. There is no question in regard to the value of drainage and of irrigation among those who know how to drain. I, however, do drain less than formerly. Where I have a clean fibroid uterus without adhesions to remove, I do not see any necessity for drainage. The same is true in uncomplicated ovarian cyst. If there is a particle of suspicious septic material about the case, I think it should be drained. You cannot pick out those cases where the pus is septic, and those where it is not. The results of non-drainage are shown on the temperature sheet, and by watching the temperature sheet and tongue we can tell whether the case has been drained or not. I have watched the temperature charts of some of the gentlemen who do not drain, and they have sometimes elevations of temperature to as much as 102°. In similar cases where I have drained and no fluid has been left, there has been no eleva-

tion of temperature. In cases where the tube has been left out and two or three ounces of fluid have collected, there is good reason for this elevation of temperature, even though it be not septic. The peritonæum may take it up, but the patients do not do as well; they have fever, a bad tongue and are more restless.

I do not have as much faith as formerly in the drainage tube as an indication of hæmorrhage; I think that it will not always tell. During the summer I lost a case from hæmorrhage although I had a drainage tube *in situ*. In the first twenty-four hours the patient did not lose more than fifteen ounces of blood through the tube, but that did not indicate the total amount of blood lost. Of course it was very evident that she was bleeding all the time, but the quantity was so small that I was continually in hopes that it was merely free oozing. I finally reopened and found three times as much blood in the abdominal cavity, and this in spite of the fact that the tube had been cleaned every twenty minutes. The patient died from the effects of the hæmorrhage.

In regard to Dr. Boyd's remark with reference to draining in public and private practice, if the case is septic and going to die, it will die in private practice as well as in a hospital. If it recovers in private practice without drainage, that will show that it was not septic. It is not a question whether the case occurs in private practice, or whether the tube can be properly cared for or not. The doctor could take care of it himself, if necessary, and see that it is well cared for. If there is any serious trouble, it is present when the operation is ended; there are few cases in which the trouble is the result of the after-treatment. In almost all my septic cases, I have always been able to put my finger on the cause, either in the operation or in the condition of the patient.

DR. B. F. BAER :

I should like to say another word. Dr. Hoffman wants reasons. I find, as I get older, that the fewer reasons I give the less trouble I get into. The result is the reason for my faith. Truth is stronger than fiction, and it is simpler. I did not say that I compelled the patient to get on her side; I simply permit her to be turned if she desires. As a rule, if she prefers to remain on her back, I

permit her to do so; but as a rule, she does not prefer it. I have frequently seen patients who were tired and restless and sleepless in the dorsal position, become quiet and drop off to sleep when turned on the side. Another reason is that I believe intestinal peristalsis is encouraged by it, and I do not think that anyone will deny that peristalsis should be encouraged. Flatus will pass more easily if the patient is turned. The lateral is the natural position in sleep. It does not interfere with the healing of the incision, nor with the ligated broad ligaments: on the contrary, I believe it is an aid, because it relaxes the muscles in the abdominal wall and pelvis. Relaxation is rest, not rigidity. The patient is rendered more comfortable by a change of position. Then I have proved my position, for I have had 110 consecutive cases without a death from the operation, and they have been managed on this principle. I disagree with the statement that the patient is more restless when turned on the side.

My reason for discontinuing drainage in most cases is a very simple one. My patients do better since I have not used drainage. That the temperature rises more constantly where the tube is not used, has not been my experience. I rarely see a temperature above 100°.

DR. CHARLES. P. NOBLE :

So many points have been covered in the discussion that I shall confine my remarks to a few of them. In reference to the position on the back for patients after section, I must confess that my experience is not that of Dr. Baer. When I started my work it was with the idea that it was a good thing for the patient to move, but I found that they wanted to get on the back again, and so I and my nurses came to the conclusion that they were more comfortable on the back. I do not think that I have had a patient on her side in less than two weeks, for months, except it might be that they have had a good deal of flatus. I agree that if there is much distention the gas will pass better if they turn on the side. If there are stitches in the abdominal wall, turning upon the side will pull upon the sutures and cause discomfort; and there is certainly a tendency to pull apart the aponeuroses of the oblique and transverse muscles. If they are kept upon their back, it is reasonable to suppose that there will be a

better line of union and less risk of subsequent hernia. I prefer them to have a bed-rest to turning off the back. I do not see any objection to the early use of the bed-rest.

With reference to drainage, I have always drained as I drained in this series, that is, in about ninety per cent. I confess that I intend to drain less. What made me drain so frequently was because I had two or three hæmorrhages, and two or three lives were saved by the tube. In one case, in double ovariectomy with a fleshy pedicle, there was severe hæmorrhage, which nearly cost the patient her life. The drainage tube told me, and I opened the abdomen and washed it out, and the patient recovered. There were other cases in which the blood came freely from the tube, and I felt that life had been saved by the tube. Having three such cases close together, it seemed to me that tying the ligature was not a fine art in my hands, and that it was better to drain. In the later cases there has been only one hæmorrhage, and I feel that the hæmorrhage undoubtedly had much to do with one of the deaths. In any case, where there is the least suspicion in regard to the satisfactory character of the ligation, it would be better to drain. If there was much doubt I should change the ligature. In clean cases, however, where the tie is perfectly satisfactory, in the future, I shall not use drainage. I believe that the universal tendency is to not drain so freely in the simpler cases, and that the results are equally satisfactory. Dr. Mann, of Buffalo, had upwards of 100 cases, without losing any. This shows that drainage is not absolutely necessary. Other men have had similar experience, which encourages us, in cases where there are not many adhesions and where there is no septic material poured out, to gradually do away with drainage.

With reference to one of the deaths being caused by the drainage tube, as suggested by Dr. Baer, I am not inclined to agree with him. That patient undoubtedly died septic, but she had a hæmatosalpinx which was ruptured in the attempt to remove it, and, as we know, the fluid in these cases is often virulently septic. There was abundant reason for sepsis without the infection coming through the tube. If she had not bled, the drainage tube and peritonæum would probably have taken care of the sepsis. I regret that in that case I did not reopen and wash out, for I believe

that she would have then had a better chance. That case and one other were the only ones in my experience where I felt that any slip in the technique had anything to do with the patient's death.

In reference to infection through the tube causing fistula, etc., I do not think that it is frequently the cause of this if the tube is properly attended to. I should be entirely afraid to trust the drainage tube to the nurse. I should feel that I was not doing my duty. I would not think of allowing a nurse to take a syringe which might be septic and put it into the tube if the tube were in my own peritonæum. I admit that the results of the men who do this are as good as my own, but looking at it from the standpoint of bacteriology, which I consider good science, I do not feel that it would be justifiable for me to do it.

With reference to some of the causes of sepsis: After every operation the nail-brushes are cleaned. All brushes are boiled for an hour after the operation, and if the nail-brush should get into nasty material it is thrown away. Dr. Baer could not understand why I did not cook the sponges. If you boil a sponge it spoils it. I believe that it is important to have sterilized sponges, and that is the reason I throw them away after they are used. The sponge, after being cleaned, can be soaked in a strong germicidal solution, and I feel that if it is well cleaned and soaked in a strong carbolic acid solution it is germ free, and then if the solution is washed out before the operation it is perfectly aseptic.

Dr. Hoffman seemed to think that I attributed the leaky skin to the presence of pus. He simply did not catch the force of the sentence in the paper. I said that it indicated the absorption of septic material. Whether that is ptomaines from pus or without pus or from any other septic material, I think it will cause a leaky skin. In this particular case there was no pus. In septic peritonitis with leaky skin the patient is usually dead before the pus forms. A leaky and clammy skin with rapid pulse is a sign of absorption of septic material.

To go back to drainage. There is one reason why those gynæcologists who are opposed to chemical solutions drain more, that is because they need to. They are not as aseptic as others. They put more infection into the abdominal cavity, and it is necessary that

they should provide for the results of such infection. If they did not drain they would have serious results. This fact explains why their simple cases do worse without drainage than their bad cases with it.

One other matter with reference to drainage. We hear a great deal about the large quantity of fluid which comes out of the tube. In about one hundred cases where drainage tubes were used, I have seldom seen much fluid come out of the tube except in tubercular peritonitis. I believe that what comes out of the tube is clean water in nine out of ten cases. It is the fluid which has been used in irrigation and which has not been sponged away. In the majority of cases I have not taken more than one drachm out at a time. The reason of this is, I believe, because I sponge out the cavity dry.

In regard to the occurrences of sinuses where a drainage tube has not been used. I have seen one such case. This was a patient from whom I removed the tubes and ovaries on account of rudimentary development. Hysterorrhaphy had been done previously with the hope that this would avoid the necessity for a more serious operation. There was no drainage, and she had a sinus. I saw another case in which sinus followed the same operation.

DR. WEAVER :

EXTRAUTERINE PREGNANCY.

Mrs. W., age 24, has one child 6 years of age, and was supposed to have had a miscarriage three years ago at a period of six weeks. She has never been pregnant since, until the present time. I was summoned to see her at 2 o'clock in the morning, November 30, the husband telling me that he thought she had an attack of colic. When I arrived she gave the following history. She was awakened during the night with a sensation as if she were about to have a movement of the bowels; she arose, and while at stool was attacked with severe abdominal pains and fell to the floor unconscious, the husband being awakened got her to bed and came after me. I found her still suffering considerable pain located in the right side, and with a pulse that made me at once suspect internal hæmorrhage. She begged me to give her something to relieve her of her pain. I, however, prescribed minute doses of calomel and bicarbonate of soda, both as a

placebo and as a preparatory course of treatment if it were thought best to operate. All the next day she seemed to improve so much that I felt as if I had made a mistake in my diagnosis, and that possibly her attack had only been one occurring during the course of an ordinary pregnancy; for pregnant she was, as she had missed her periods twice, had fulness of the breasts and all the other symptoms which usually accompany gestation. The following day she had another attack, and although slight I insisted on an examination, and felt confident that I had a case of extrauterine pregnancy to deal with. I immediately went myself after Dr. M. Price and he saw her with me that afternoon, and, although he agreed with me in my diagnosis, he advised against an operation unless she should have another hæmorrhage. This occurred the following morning and came near proving fatal, as she lay unconscious for fully ten minutes with a fluttering pulse for which I was unable to account. I sent the husband for Dr. M. Price, and he operated the same afternoon. She had at this time but slightly recovered from the excessive hæmorrhage of the morning and still had a weak pulse of at least 155 to 160 beats per minute.

DR. CORDIER, of Kansas :

On December 3, through the courtesies of Dr. M. Price and Dr. Weaver, I was present and assisted them in performing an operation for ruptured tubal pregnancy. (The patient, aged about 24 years, was in the practice of Dr. Weaver, a bright young physician practising in West Philadelphia, who, much to his credit in recognizing these cases early and calling in the surgeon immediately to stop the hæmorrhage, has, in three years, had many cases of this fatal and too often unrecognized condition, and in each case the lives of valuable wives and mothers have been saved, and that, too, in a useful period of their existence—thanks to modern abdominal surgery in skilful hands.) Never in my life have I had more indelibly stamped on my memory the necessity of immediate surgical procedure than in this case, and it cannot be written in too strong language, the danger of delay is death to the patient and the remorse of a guilty conscience to the honest surgeon for his procrastination. This lady, when we arrived, was found in a dying condition from acute anæmia. She was

almost pulseless, the heart beating about 150 to 160 per minute, and its impulse almost imperceptible in the radial artery. She was sighing frequently and having recurring attacks of syncope on being raised to a sitting posture. The skin had a death-like pallor, her lips were cold and resembled in color those of an unpainted wax figure. In fact, her condition was one of a most alarming character from the loss of blood. Preparations were most hurriedly and thoroughly made for stopping the hæmorrhage and removing the ruptured appendage. The ether was administered by Dr. Weaver.

The abdomen was opened by a small median incision, the tissues dividing under the knife-edge like a piece of cold tallow, not a drop of blood escaping from the divided capillaries or arterioles, so exsanguinated were her tissues. The peritonæum presented that peculiar and characteristic dark or almost black appearance always to be seen in extrauterine pregnancy with rupture of the foetal envelope, accompanied with the resulting hæmorrhage. On opening this membrane, the black blood, free in its cavity, spurted up through the abdominal wound fully two feet and the full size of the opening, literally deluging the operator and his assistant.

This spurting of the blood was due to the fact that the abdominal wall was as tense as a drum head, so thoroughly was it filled with blood. The amount of blood lost reminded one very much of the post-mortem condition found in a ruptured abdominal aortic aneurism. The ruptured tube was quickly seized and delivered through the parietal opening, and its pedicle transfixed with strong Chinese silk, and the hæmorrhage controlled, the pedicle ligated and a good heal for the stump left by cutting away the lacerated mass. The open and gaping mouths of the pedicle arteries, as large as crow's quills, staring us in the face, seemed to say, "Your work has been timely and good."

The clots were many, yet not so numerous as I have seen in similar cases. Those loose in the peritoneal cavity were removed by large hot-water irrigations, a drainage tube was inserted into the hollow of the sacrum, its lowest part, and the wound closed by silk-worm gut sutures and dressings applied.

From the time the incision was begun until the appendages were secured by the

ligatures, could not have been longer than three to five minutes. Time is always precious in any surgical operation, but in no case more than in this is decisive judgment and rapid work more imperative if you wish to save your patient from the hæmorrhage. They have in many of these cases, when the surgeon is called to operate, already bled until the heart is too weak to overcome much resistance with the little force left and the remaining blood circulating; but the moment you take away the pressure of the tense abdominal wall, by allowing the escaped blood to find an exit through your incision and thus relieve the pressure and allow the formed clots, if any have formed, in the mouths of the bloodvessels to be disturbed, the hæmorrhage starts up with alarming rapidity, and you must work fast or the patient will die quickly from increased hæmorrhage as the result of your interference. You have no time to place your patient in Trendelenburg's position to look for a spurting artery. There are many of them. You must rely upon your knowledge of anatomy and pathology of these cases, and if your fingers are experienced, or have been properly educated, they will quickly find and deliver your specimen, and you may now use your eyes while ligating the pedicle and forming your stump a safe distance from the ligature. Doubtless, some doubting mind will inquire or question the validity of this report and want more confirmatory evidence to warrant my calling it extrauterine. If so, I can offer no better or stronger evidence than that the fœtus was found yet connected to the ruptured tube, and its peritoneal capsule was not ruptured when the tube was removed and ligatured, but was removed before the irrigation. I should say that the rupture in the tube took place about the tenth week, but at what time the little fœtus escaped is a question no one could answer. The amount of blood lost in this case before the operation was begun far surpassed any case I have seen, and Dr. Price, with his extended experience in the operative treatment of these cases, was sure he had never seen anything to equal it.

DR. J. PRICE:

Mrs. H., aged 33, married eleven years, strong, healthy woman, perfectly regular in catamenia, never had a miscarriage or abor-

tion, gave birth to a child at full time twenty months ago; had a rather protracted labor; has menstruated regularly since—last date of menstruation Feb. 24-27. On the morning of March 29 was seized with some paroxysm of abdominal pain, which was immediately followed by collapse.

On the 4th of April the second paroxysm occurred; on the 6th the third, and on the 8th the fourth and fifth—each of which was followed by collapse—on the 9th abdominal section was performed.

In presenting specimens or discussing the subject of ectopic pregnancy, it would seem that the time had come for the last word as to the proper treatment of this murderous trouble. Some few are still inclined to tinker with electricity. Pelvic surgeons, thoroughly familiar with all pelvic inflammatory troubles and growths, have but one treatment—that of prompt and thorough surgery, the removal of the offending gestation sac, and irrigation and drainage if necessary. The recognition of the trouble before rupture of the tube is uncertain and doubtful.

As the great variety of pelvic troubles are difficult to recognize with precision, a hydrosalpinx or a small dermoid, with delayed menses, may simulate ectopic pregnancy. After rupture of tube the diagnosis is easy and commonly correctly made. But occasionally objective signs do not exist after rupture of ectopic canal. Recently I have had three typical cases in the history of ruptured ectopic pregnancy. The subjective signs were well marked. But upon careful examination I failed to find pelvic objective signs. Upon section I found the abdomen full of liquid blood and but few clots.

In the last case there was not even a delayed period nor the usual inaptitude to conception. The last period was simply scant—two days in duration. No rational signs of pregnancy. Two paroxysms of agonizing pelvic pain—swooning and acute anæmia—no pelvic objective signs. The uterus in good position, normal in size, consistency and outline. No doughy or boggy mass on either side. Upon opening the abdomen free blood welled out. The ruptured tube was bleeding freely, but the product of conception had not been discharged. The tubal contents in many of these cases are discharged from the pavilion extremity, in many through the tubal wall.

In an experience of sixty-two abdominal sections for ectopic pregnancy I have never found the product of conception between the leaflets of peritonæum forming the so-called broad ligaments. The diameter of the crest of the broad ligament throughout the base of the tube is much less than one line in thickness. Again, I have never found in all my experience in pelvic and abdominal surgery a true subperitoneal pelvic hæmatocele as described in gynæcological works. I constantly read of such things, but fail to find them in my own work. Prompt surgery for extrauterine pregnancy, if done thoroughly, will save about all the cases. In my experience of sixty-two cases I have lost two. The two deaths occurred in the first eight—the third and eighth. Up to this time I did not understand fully how to do the work thoroughly. I am constantly getting letters from numerous operators over the country through which I learn that many of them are having perfect results—also that their views and experiences agree with mine. The four cases that follow are reported briefly as recent and illustrative cases.

DISCUSSION.

DR. M. PRICE:

The criticism which Dr. Weaver has made on my delay is perfectly just. I unquestionably risked that woman's life. There was no question in regard to my diagnosis. He had three cases of a similar kind within one square. The woman was in a desperate condition, but I had no nurse. The moment that I got home I telegraphed for a nurse. The other case that I operated on I also procrastinated, waiting for a nurse. If these patients had died, nothing but my own delay would have been the cause of it. In this woman, I am confident that there must have been nearly a gallon of blood. There is only one explanation for this loss of blood—the woman is pregnant. Nature has provided her with a condition to withstand hæmorrhage or with more blood than she requires. I remember a case of a lady with large varicose veins; it was near the period of confinement. One of the veins ruptured, and she travelled up to the fourth story, leaving a stream of blood, and when I saw her she had her foot in an ordinary basin which was filled to the top, and she was not even faint. The

only explanation of this is that the woman can stand in pregnancy much more hæmorrhage than in any other condition.

DR. JOSEPH HOFFMAN :

There are no cases where immediate operation is so important as extrauterine pregnancy. The experience that we gain by cases cited renders it imperative for us to reject the fashionable German theory, and to some extent the English theory, of waiting for the certainly fatal hæmorrhage to occur before operating. The theory is that extrauterine pregnancy is a trouble that often cures itself. We do not know how often it cures itself, but we know that it often kills. As to the blood that is lost, that must be a measure of the success of the operation. If a woman has had four or five great hæmorrhages close together, her chances are less than if the hæmorrhages had been distributed over a longer period. In one case in which Dr. M. Price assisted me, the woman had had three severe hæmorrhages within less than a month. The abdomen was crowded with blood and we used at least sixteen quarts of water. When I first saw her she was pulseless, although in the recumbent position, with poultices applied for cramp colic. Stimulation for twelve hours brought down the pulse and improved the condition, but forty hours after operation the patient died of heart failure. In those cases where the rupture occurs close to the uterus, the chances are about nothing unless the operation is done at once. Mr. Tait said that cornual pregnancy is bound to be fatal. It is the cases that are operated on early that get well. The question of diagnosis of rupture is so well known that it is not worth while to discuss it.

DR. CHARLES P. NOBLE :

I wish to say one word about these desperate cases. I have operated on two cases with abdomen full of blood, but both died. They died partly because they had lost so much blood, and partly because I spent too much time on the operation. In both cases there was disease of the appendage, and I took time to take it out. If I am called on again to operate where there is much hæmorrhage, I shall consider that my duty is done when I stop the hæmorrhage and wash out the blood as far as possible. I should not spend too much time in trying to wash the blood out completely. I think that this is one of

the classes of cases where it is wise to pour in a pitcher of water and leave it in. I am satisfied that one of my cases died because there was not enough fluid in the body to carry on the circulation. While all of the water would not be absorbed, yet some of it would be taken up, and in some of the desperate cases this might save life.

DR. J. PRICE :

You will find in the Hopkin's bulletin the report of a case of extrauterine pregnancy with death. In this case I was surprised at the delay and at the choice of the anæsthetic. They resorted to the hypodermic syringe, and, finding blood, they determined to do a section, and administered chloroform. Surely none of us would ever think of using chloroform where there was great loss of blood and a feeble heart. I was rather inclined to think that the death was due to chloroform. In these cases the question of time is of vital importance. The desperate cases that you find with severe paroxysms of pain and acute anæmia are the dangerous ones, and will probably die. Chronic cases, with recurring hæmorrhages, with the pelvis filled with new material and with universal adhesions, are usually the favorable cases. In the chronic cases of ruptured ectopic pregnancy, there will be found a quantity of adherent clot, rendering it difficult to make a satisfactory toilet. It is not necessary to remove all the clots from the surrounding viscera. The peritonæum will digest the blood that remains, but it will take a long time to do it. In many of these cases I have used hypodermics of strychnia and digitalis at intervals of three or four hours for a week; it is surprising how they have been kept alive by these hypodermics and by enemata of whiskey. I have had the pulse remain at 140 for four days, and recovery take place.

Some one has alluded to loss of blood. Patients do die from hæmorrhage. A physician in Stanton, Virginia, told me that he had lost two patients in one week, and both died under his hands. One died in the space of the time that it took him to introduce his hand into the uterus. The blood simply poured from the vagina. Stimulants before and after operation, with a short and quick operation, are of importance. The presence of water is only another form of transfusion. If you can leave a quantity of pure water

in the peritoneal cavity, it will do good. I have had an experience of sixty-two ectopic pregnancies, with two deaths.

DR. J. M. BALDY:

SPECIMENS OF FIBROID TUMORS OF THE
UTERUS.

The first specimen consists of a uterus enlarged by fibroid development to a tumor weighing two or three pounds. It is from the patient whose case Dr. Massey reported to this society, at its last meeting, as a fibroid tumor which had suppurated during a course of treatment by electro-puncture. Both ovaries had developed into cysts—one the size of a large hen's egg, the other as large as an orange. Both tubes were involved more or less. The tumor rested back against the promontory of the sacrum, with both ovarian cysts directly posterior and under it and filling practically the whole pelvis. The omentum and intestines were adherent over the fibroid tumor; the fibroid uterus itself was adherent over its entire posterior and lateral surfaces to everything it touched; both tubes and ovaries were universally adherent. The omental and intestinal adhesions were freed, the uterus was torn loose and delivered, and both ovaries were dealt with in a similar manner. The right and smallest ovary was delivered intact. The left ovary was freed from its adhesions until it came to a single point; on tearing this loose, the cyst was opened and deluged the whole pelvis with its dark septic contents. The last point of adhesion proved to be about the pelvic opening of a sinus tract, the other end of which was located on the outside of the left labia. The cyst also opened into the vagina. During the course of the electro-puncture the ovarian cyst had been entered, became septic, with the resulting opening into the vagina and the sinus tract which had burrowed its way along the outside of the vagina, and had opened at the point already indicated on the labia. The whole mass was included in a wire clamp, and the pedicle treated by the extraperitoneal method. The pelvis was carefully flushed out, several gallons of water being used, and a drainage tube placed at the pelvic opening of the sinus tract. The patient was put to bed, without any shock, within an hour from the time the operation began. At the end of twenty-four hours all discharge from the tube had ceased, and the woman was

doing very well; the tube was, therefore, removed. At the end of three days she was doing badly, and died on the fifth day.

A post-mortem examination showed that the whole pelvis had suppurated. Had I allowed my drainage tube to remain in place, perhaps the result might have been different. The patient was in such a low, septic condition when she entered my ward at St. Agnes' Hospital, however, that the result was from the first a doubtful one, and I gave her friends but slight encouragement. She had been in bed for days and weeks with a suppurating pelvis, was so tender that she could scarcely move, and would bear but the most superficial examination. She was sent to the hospital in a conveyance, and was carried to my ward on a stretcher. Contrast, if you please, the difficulty of the operation and the result in this case with that of the case I now present to you. This tumor is, as you see, much like the one I have just shown you, both in size and appearance. It lay in exactly the same position, with exactly the same condition of the ovaries. This case I first saw last spring, when she had an attack of peritonitis, for which I treated her, and from which she made a good recovery. She came back to me this fall with a second attack of pain in the abdomen and a considerable enlargement of the growth. This fact, in connection with her age—about 28 years—led me to urge an abdominal section, which I performed by the extraperitoneal method of treatment at the Gynecean Hospital. The girl recovered without a single complication or bad symptom. Had the first patient followed my advice and allowed me to remove her tumor three years ago, when I first saw her, and before the adhesions and suppuration had complicated her case so seriously, she would have made just as easy a recovery. The lesson to be learned from these three cases, so exactly similar, should not, it seems to me, be altogether lost.

The third specimen I have to show you is considerably larger than the first two. The abdomen was distended above the umbilicus, and a nodule as large as one's fist protruded into the vagina and presented at the vulvar orifice. The vaginal mass was sloughing and had been in that condition for over a month, in consequence of which the woman was deeply septic. I performed the operation at the Gynecean Hospital in two stages. First

the vaginal portion of the tumor was removed as far within the limits of the cervix as possible. The abdomen was then opened, and the operation finished as a supravaginal hysterectomy, the stump being treated by the extraperitoneal method, as is always my custom. The patient did not have a bad symptom until the eighth day, when the stitches were removed. After I had left the hospital the patient turned over in bed several times and had a vomiting spell. The whole line of the incision gave way, and the intestines protruded in a mass larger than one's two fists. They were exposed some two hours before they were again returned into the abdomen. No further complication arose, and the woman is now enjoying better health than for years.

The fourth specimen is a cystic sarcoma of the uterus, which weighed about forty pounds. The adhesions in this case were the most extensive that I have ever met with. The omentum was removed entirely, it being ligated close to the transverse colon by a series of ligatures. The uterus was amputated,

and the stump treated, as usual, by the extraperitoneal method. No attempt was made to remove the whole uterus on account of the size of the woman. The fat on her abdominal walls was over four inches thick. As the operation had already been a long and severe one, it was considered best to attempt no more than removal of the tumor itself.

I have another specimen to show you which is interesting to me from several points of view. Both ovaries have developed, as you see, into dermoid cysts—the one as large as an orange; the other as large a man's head. Latterly the growth has been very rapid. The large cyst is multilocular, containing four distinct cavities. The one cavity—the smallest—contains a large bunch of hair. One of the other cavities has calcareous deposits in its walls. The cyst contained several quarts of pus-like fluid, some of which escaped into the abdominal cavity. The adhesions which existed were quite numerous and firm. The patient made a good recovery.

J. M. BALDY, *Secretary*.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

ORIGINAL COMMUNICATIONS.

Ophthalmia Neonatorum : Its Treatment and Prophylaxis.

BY G. E. DE SCHWEINITZ, M.D.,

Professor of Ophthalmology in the Philadelphia Polyclinic ; Ophthalmic Surgeon to the Philadelphia Hospital.

A LECTURE DELIVERED AT THE PHILADELPHIA POLYCLINIC.

THIS afternoon we will study purulent ophthalmia, as it occurs in the newly-born infant.

This inflammation is characterized by great swelling of the lids, serous infiltration of the conjunctiva, and the free secretion of contagious pus.

It is caused by the introduction into the eye of infecting material from some portion of the genito-urinary tract of the mother at the time of or shortly after birth. The majority of cases, and probably all severe forms, are due to the presence of the gonococcus of Neisser, very typical examples of which you will see in the slide placed under the mi-

croscope. Exceptionally, inoculation appears to take place *in utero*; and Mules, in his excellent essay upon this topic, has attributed a high degree of penetrating power to the micro-organism, based upon his examination of a child, who was brought to him eight hours after delivery, exhibiting the symptoms of the second stage of the disease; hence infection *in utero* must have occurred at least two days before birth or rupture of the membranes.

The gonococci are not always present. They are especially numerous during the purulent stage. On this account, two varieties of the disease

have been described—one, a severe type, associated with the micro-organism, and exhibiting a tendency to increase in severity and attack the cornea; and another, a milder type, non-specific, and with a tendency to recover. Do not forget that a virulent vaginal discharge in the mother is not necessary to produce this condition, as it probably may arise from the introduction of any muco-purulent discharge during birth. Infection after birth may be caused by soiled towels or sponges, and some have supposed that contact with the lochial discharges may originate a form of the disorder. Inoculation of healthy lochia, however, by Andrews, Zweifel and others, has failed to produce the disease. Inoculation is more likely to occur in retarded labors and with face-presentations. Boys are said to be more frequently attacked than girls, and a curious relation between the temperature and this disease has been demonstrated by Emmert, of Berne. In cold climates ophthalmia neonatorum is especially frequent in the summer months; in hot countries, in the spring and autumn.

You will notice that the gonococci surround the nuclei within the living cell; later they penetrate the epithelium and enter the lymph spaces. The shape of the micro-organism is not peculiar to the gonococcus of purulent ophthalmia, because diplococci of exactly the same appearance are seen under other circumstances; but the arrangement of the gonococci within the protoplasm of the cells is characteristic of this species of micro-organism. You have observed how easy a matter it is to stain and demonstrate them. I would earnestly

advise you in all cases of purulent secretion from the conjunctiva to make this examination. In ophthalmia neonatorum it furnishes an important prognostic guide.

Ophthalmia neonatorum usually begins on the third day after birth, but it may set in from twelve to forty-eight hours after inoculation. The variety which results as a secondary infection from soiled fingers, or sponges, or cloths, arises at a much later date. Almost always both eyes suffer, one being earlier and more decidedly affected than its fellow.

Systematic writers divide the disease into four stages—the stage of incubation, the stage of lymph formation, the purulent stage, and the stage of recession. But in a typical case these grades shade into each other so easily that it is hard to distinguish them.

In brief, the following are the chief characteristics of this very important disease: slight redness of the conjunctiva, with a trifling discharge in the corners of the eyes rapidly gives place to a great cushion-like swelling of the lids, with chemosis of the conjunctiva, severe pain and discharge. The surface of the swollen lid is dusky red and tense; the discharge, which in the beginning is slightly turbid, soon changes to a greenish-yellow pus, which is secreted in great quantities. During the first day or two the conjunctiva is swollen and velvety, and easily detached flakes of lymph are found upon its surface; later it becomes rougher, dark-red in color, and spots of ecchymosis appear. The chemosis of the ocular conjunctiva forms a hard rim around the cornea, and at the bottom of the crater-like pit thus produced this struc-

ture is visible. The thick, cream-like discharge increases, and either flows out from beneath the overhanging lid or is backed up in the conjunctival cul-de-sac. Gradually the disease declines, the lids lose their tense character, the conjunctiva is puckered into folds, the discharge becomes admixed with blood and serum, and ceases in from six to eight weeks.

The chief danger is destructive ulceration of the cornea. This danger is especially prone to occur if, during the first day or two of the disease, the membrane is lustreless and hazy. Small, oval ulcers may form near the limbus, which soon are surrounded by an area of infiltration, and rapidly increase in size, or larger lesions develop directly in the centre of the corneal tissue. If the disease is not checked, the ulcer will perforate, and all of the complications attending this disaster become manifest—evacuation of the aqueous, incarceration of the iris in the wound, the formation of an adherent leucoma or scar in the cornea, which, unable to resist the intraocular tension, bulges forward and forms, according to its original size, either a partial or total staphyloma. Finally, perforation may be followed by inflammatory involvement of the ciliary body and choroid, and rapid destruction of the eye through panophthalmitis.

Do not forget that a dense opacity sometimes appears in the cornea during convalescence. It may arise with great suddenness, and, when it occurs in the lower half of the cornea, a deep indentation from the pressure of the margin of the lid is likely to occur. It is quite possible that ophthalmia neonatorum will not follow the course just described, and some-

times this name is given to very mild types of conjunctivitis, which occur in the newly-born, and which have no such destructive tendencies. Do not allow yourselves, however, ever to be led into a false sense of security when you find pus or muco-pus in the eyes of a newly-born child. It may indicate a mild, non-specific type, but it may be the beginning of disease, which, if improperly or inadequately treated, will forever mar the sight of the patient.

I will not attempt this afternoon to give a description of the various methods of treatment which have been pursued in this disease, but will briefly describe the procedure which has proved efficacious in my own hands, especially in the wards of the Philadelphia Hospital. This deals with three conditions: the inflammatory swelling of the lids, the state of the conjunctiva, and the corneal complications.

During the earlier stages, when the lids are tense and the secretion has not the creamy character which it later assumes, in addition to absolute cleanliness, the *local application of cold* is the most useful agent. This should be applied in the following manner: upon a block of ice square compresses of patent lint are laid, which in turn are placed upon the swollen lids, and are as frequently changed as may be needful to keep up a uniform cold impression. This is far preferable to the use of small bladders containing crushed ice. The length of time occupied with these cold applications must vary according to the severity of the case. Sometimes they may be almost continuously used, and sometimes frequently for periods of half an hour. Later on, when corneal

complications exist, *hot fomentations* are better than cold. These are employed in like manner with squares of antiseptic gauze wrung out in carbolyzed water at a temperature of 120° F., and frequently changed.

See that the discharge is constantly removed. Gently separate the lids, wipe away the tenacious secretion with bits of moistened lint or absorbent cotton, and irrigate the conjunctival sac freely with an antiseptic solution. For this purpose a solution of boracic acid, or one of corrosive sublimate, a grain to the pint, may be employed. You will frequently see it stated that boracic acid is so feeble an antiseptic that it is valueless for the purpose that I have just stated; moreover, it is practically without germicidal power. That it is a feeble antiseptic is perfectly true, but you must remember that its purpose in the present instance is to act as a slight astringent and a cleansing agent. You cannot kill the gonococci that have penetrated within the cells with a solution; at least, you cannot use a solution of sufficient germicidal strength that will not at the same time be deleterious to the cornea. Although bichloride of mercury is constantly employed, and, although I always employ it myself, it is by no means certain that, as it is ordinarily used, it has any pronounced germicidal value in this disease, because it has been shown that bacteria, in the presence of albumin, have the power to reduce it to calomel. I have found it very useful to use both boracic acid and bichloride of mercury alternately every half hour or every hour, according to the amount of secretion. Let the irrigation be kept up day and night if necessary; only be sure that you keep the surfaces as clean as possible.

Many other drugs have been used: alum, sulphate of zinc, weak solutions of nitrate of silver, creolin, permanganate of potash, aqua chlorini, peroxide of hydrogen and pyoktanin. Do not use pyoktanin. In spite of the high reputation of its patron saint, it is valueless, in my judgment, in this disease. My colleague, Dr. Gould, and myself have demonstrated this to our satisfaction in the Philadelphia Hospital.

The application of nitrate of silver at the proper stage is, perhaps, the most important procedure. It must not be used early, before free discharge is established, nor in those cases, no matter what the stage, when the lids are tense and board-like and the surface of the conjunctiva is covered with a gray film or false membrane. When the secretion is free and creamy, when the lids are relaxed, when the conjunctiva is dark-red and puckered into folds, the time for its application has come. Once a day carefully evert the lids, free the conjunctiva from all adherent secretion, and brush it over carefully with a solution of nitrate of silver, 10–20 grains to the ounce. In severe cases it may be necessary to use the mitigated stick, care being taken to neutralize the excess with common salt. As long as the discharge is abundant, the use of this caustic is indicated. It has a double action, viz., that of a germicide and that of an astringent. Unlike bichloride of mercury, its germicidal value is potent, because it destroys the superficial layer of epithelial cells and probably many of the contained micrococci.

At the first appearance of corneal haze, a solution of atropine, four grains to the ounce, may be dropped into the eye two or three times

If the ulcer is marginal and if danger of perforation is imminent, or if there is a very distinct sloughing in the cornea and the iris is uninflamed, eserine is the better drug. This may be used in a strength from a quarter to a half grain to the ounce; and, as it is somewhat irritating to the ciliary body, there is no objection to using atropine at night. The former drug may be employed four or five times a day, and the latter once or twice in the evening.

The attendants of a case should be impressed with the responsibility which devolves upon them. The contagious nature of the pus should be explained to them, and they should take great care to destroy all rags, cotton, etc., which have been used in the treatment of the disease. It is said that Stellwag was wont to declare that he never lost a case of acute blennorrhœa of the conjunctiva if he was assisted by an old and tried nurse, but that if it was necessary to change nurses disaster was sure to result.

And now a word or two in regard to its *prophylaxis*.

According to the Report of the Royal Commission of the Blind, the statistics of Professor Magnus, of Breslau, demonstrated that 71.99 per cent. of all who become blind during the first year of life are rendered sightless by purulent ophthalmia. In other words, he has shown that of every 10,000 children under five years of age, 428 are blinded by this type of conjunctivitis. The proportion of blind from this cause in the asylums of Switzerland is 26 per cent.; in Spain and Belgium, about 12 per cent.; and in the United Kingdom, 30 per cent. of the inmates of institutions and 7,000 persons have lost their sight

from the same disease. Rivière, of Bordeaux, forcibly exclaims that purulent ophthalmia alone is responsible for nearly one-third of the cases of blindness, and has placed in the care of Europe well-nigh 100,000 victims. More than 32 per cent. of blind in our own country own their affliction to ophthalmia neonatorum; and Howe, of Buffalo, in a collection of 8,574 cases of labor conducted without preventive methods, found 8.66 per cent. of blennorrhœas.

In the face of these facts, the measures to prevent ophthalmia neonatorum rank in importance with those employed against smallpox and tuberculosis, and demand the assiduous practice of means which experience has taught to be effective. The day should not be far distant when stringent legislative regulations will be in force militating against this appalling cause of blindness.

The following words, quoted from the Report of the Committee on the Causes and Prevention of Blindness of the American Ophthalmological Society, are of great importance: "The fact that nurses and midwives in most States have a very irresponsible position which enables them to do much harm—the fact that a very little neglect or delay with this class of cases often results most disastrously to the patient, and the fact that the duty of nurses in this respect in foreign countries has already been established, and at least by one State in the Union—inspires the hope that creditable reformation may take place in other parts of our own land." And, again, "Finally, the Committee would strongly recommend in the medical colleges throughout the country that more attention be given

by the faculties to the course of ophthalmology, making it as long and thorough as the requirements of other branches will admit."

In the absence of distinct governmental interference, it is the evident duty of physicians, nurses and directors of public charities to instil among the poorer classes a knowledge of the dangers of the disease and the necessity for prompt treatment.

It would be very interesting to trace from the beginning the first methods of prophylaxis which were employed, but time will not permit. Crèdè, of Leipsic, deserves the credit of having secured, by the use of nitrate of silver, a rational preventive treatment. His method, as you know, consists of the instillation of two drops of a two per cent. solution of nitrate of silver in the eyes of the newly-born child, which, as soon as it is expelled from the maternal passages, and before the cord is cut, is placed upon its back in the bed, the eyelids parted, and the drug introduced. This in some instances is repeated on the second day. In the meantime, small compresses soaked in a solution of salicylic acid are laid upon the closed lids.

Previous to the nitrate of silver treatment, 10.7 per cent. of ophthalmias occurred; after the introduction of the method among 1,160 cases of labor, the percentage of ophthalmia fell to 0.31.

Very many other methods besides Crèdè's have been tried, and obstetricians like Kaltenbach have advocated that no local application be made to the eyes other than that of distilled water, but that during the labor persistent vaginal douches of bichloride of mercury be employed; and Korn also concludes that painstaking clean-

liness during birth and also in child-bed will reduce the possibility of this disease to a minimum.

The method of Hegar-Kohn has been largely advocated, which consists in employing Van Swieten's liquid (corrosive sublimate, 1 part, alcohol, 100 parts, water, 900 parts) in order to cleanse the eyes of the newly-born child, as well as all of the surrounding areas—the root of the nose, the margins of the lids and eyebrows. It is true that the instillation of the silver solution sometimes causes hyperæmia of the conjunctiva, but this usually disappears in a day or two. Very occasionally severe hæmorrhage has followed its instillation. Pomeroy and myself have reported instances of this character. These, however, are insignificant complications compared with the vast benefit which this preventive treatment entails. Schmidt-Rimpler believes that aqua chlorini, which is unirritating, is quite as efficacious as the nitrate of silver. It matters little, perhaps, in the preventive treatment what remedy is employed: nitrate of silver, bichloride of mercury, aqua chlorini, or scrupulous antisepsis during labor; but certainly one or other of these should be used. If in spite of it, or because of lack of it, within twelve hours after birth, a little redness of the eyes begins to develop and a slight secretion gathers in the corners, do not permit the surrounding attendants to deceive you with the belief that this is a "cold in the eye," or a natural consequence of the change in the baby's environment. Do not allow the good old nurse, who now, happily, is being relegated to the background, to wash the eye with milk because she has washed the eyes of babies during

forty years of experience with the same collyrium. Remember, this may be the incipient stage of a destructive inflammation which will destroy the baby's eyesight if it is not properly

treated, and which ought to destroy forever your peace of mind if you permit yourselves to neglect the warnings.

CLINICAL MEMORANDUM.

Weight-Sheets of Infants Fed Entirely or Partially upon the Bottle in the Philadelphia Hospital, During the Five Months, August to December, Inclusive.

BY BARTON COOKE HIRST, M.D.

DURING my preceding term in the Philadelphia Hospital (1890) I kept the bottle-fed infants on predigested sterilized milk, and published the results in the *Medical News*. At the same time in private practice I was employing pretty generally a mixture of condensed milk, cream and water, which I knew to be satisfactory from experience. In the present term (1891) I determined to observe the results of this system in hospital practice. The weight-sheets which follow show what has been accomplished.

Twenty-eight children, as may be observed, are on the list. Of this number six were fed partially from the breast. They all gained. Of the remainder, twenty-two in number, six died, fourteen gained in weight, and eight lost, as follows:

One gained rapidly for a month, then died of inherited tuberculosis.

One gained rapidly, but died of acute dysentery.

One lost steadily till death, nineteen days after entrance.

One lost steadily till death, twenty-days after entrance.

One was in the house but a week; it lost eight ounces.

One was in the house but two weeks; it lost one ounce.

One remained almost stationary for two months; it lost thirteen ounces.

One entered ill with bronchitis; died in eight days; it lost one pound thirteen ounces.

It appears, from this table, that two children should be added to the gain list, making sixteen. In only one case was the feeding continued for any length of time without complicating disease, with unsatisfactory results.

On the whole, this is a good showing for the worst class of infants procurable—foundlings—many of them with inherited disease, and almost all with feeble constitutions.

November, 1891.

Name.	Age.	Food.	Inter- val.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.
John Fisher.....	1 m.	G. M.	2 hrs.	3iiij	513	514	515	514	515	515	515	61	61	6½	61	63	65	63	65	66	67	69	69	69	69	69	69	69	69	69	69	69	69
Nellie Ogden.....	4 da.	Milk	Br'st	313	315	4	4	4	4	4½	4.5	4.4	4.6	4.7	4.6	4.6	4.9	4	4.94	4.04	4.14	4.04	4.14	4.04	4.14	4.04	4.14	4.04	4.14	4.04	4.14	4.04	4.14
Myrtle Gaffney.....	3 m.	C. M.	3 hrs.	3iiij	1014	1013	1012	1014	1014	1014	1015	1014	1015	1014	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015	1015
Wm. Heimback.....	1 w.	C. M.	2 hrs.	3iiij	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Mary Miller.....	4 m.	C. M.	3 hrs.	3iiij	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
Mary Dolan.....	10 m.	Milk	Br'st	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Cassie Kelly.....	2 m.	C. M.	3 hrs.	3iiij	713	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
H'ry Richardson.....	2 m.	C. M.	3 hrs.	3iiij	713	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Adam Hunterson.....	8 w.	C. M.	3 hrs.	3iiij	7	71	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Thos. McGuigan.....	8 w.	C. M.	3 hrs.	3iiij	7	71	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Edw. Pembrock.....	11 m.	Milk	Br'st	16	14	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
Isaac Finkelstein.....	6 w.	C. M.	1	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
George Crill.....	6 w.	C. M.	1	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
Emma Polmer.....	3 w.	C. M.	1	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17

December, 1891.

Name.	Age.	Food.	Inter- val.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.
John Fisher.....	4 mo.	C. M.	3 hrs.	72	78	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
Nellie Ogden.....	4 mo.	Br. Fed	3 hrs.	53	52	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
Myrtle Gaffney.....	4 mo.	C. M.	3 hrs.	3v	11	10	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Wm. Heimback.....	2 mo.	C. M.	3 hrs.	3iv	73	61	72	71	72	73	74	74	74	72	74	74	75	74	73	73	75	75	73	76	74	75	75	75	75	75	75	75	75	75
Mary Miller.....	7 mo.	C. M.	3 hrs.	3v	82	86	87	87	87	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88
Mary Dolan.....	1 year	C. M.	3 hrs.	3v	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
Emma Polmer.....	2 mo.	C. M.	3 hrs.	3v	59	51	52	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53
George Crill.....	2 mo.	C. M.	3 hrs.	3v	67	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
Thos. McGuigan.....	3 wks.	C. M.	3 hrs.	3v	67	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
Joseph Lepler.....	5 mo.	C. M.	3 hrs.	3v	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Baby Evely.....	2 mo.	St. M.	3 hrs.	3v	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49

The weight is expressed in pounds and ounces; thus, 6.12—6 lbs. 12 oz. C. M.—condensed milk, water and cream. St. M.—sterilized milk.

The condensed-milk mixture used was one part to ten of boiled water, with a drachm of good cream to the ounce of the mixture. The most serious objection to this plan of feeding is the likelihood that in summer the cream will be infected. This danger can be in part avoided in private practice by procuring good fresh milk in the morning, contained in glass jars, and skimming the cream as it is needed, the jar of milk being kept on ice. The objection to condensed milk, that while it makes fat, it does not give the child firmness and resisting power, does not seem to be well founded. If one adds fat to the mixture in the shape of cream this

objection is met; otherwise, the child gets but about 1.5 per cent. of fat in its food, and, of course, will not thrive as it should. I have no hesitation in using this formula very extensively for young infants before the sixth month, and have to show for it as vigorous and healthy children as can be found. For feeble children, with poor digestions, especially in summer, I find the predigested sterilized milk better. It is very desirable that hospitals for infants everywhere should publish the detailed results of different plans of infant feeding. It would not be very long before the best system, as proved by clinical results, would be demonstrated.

ABSTRACTS FROM CURRENT LITERATURE.

Tuberculosis of the Testes in Children.

NINE cases of tuberculosis of the testes have been observed at *L'Hospital des Enfants-Malades* by Hutinel and Deschamps (*Arch. Générales de Médecine*). The authors believe, from their studies, that the disease is most frequent during the first years of life, and not on the approach of puberty, as has been supposed. The affection exhibits the same symptomatology, with few exceptions, as it does in the case of adults. Sometimes it begins as an acute tubercular orchitis, resembling a blennorrhagic orchitis; at others, it makes its appearance only after a course of peritoneal or intestinal tuberculosis. Its march is the

same as that of any other local tubercular affection. The diagnosis is easily made. The prognosis is generally serious. In order to obtain a cure in these cases, an active medical treatment should be pursued. This should consist in the administration of codliver oil, creosote, arsenic, phosphate of calcium, sea-bathing, etc. The authors do not favor castration, and believe that the general treatment is sufficient for all practical purposes. Puncturing may be resorted to when the testicle has become caseous.—*Le Bulletin Médical*, December 9, 1891.

Zona in Children.

ACCORDING to Comby (*Le Bulletin Médical*, November 22, 1891), the pathogenesis of herpes remains to be explained. He has studied the disease during eight years, and has collected thirty-three cases, twelve of which occurred in boys, and twenty-one in girls. The predominance of the disorder in the female sex has been observed by other authors. According to the statistics of Comby, the disease occurred in four children of less than two years of age; the ages of the rest of the cases varied from two to ten years. One of the patients was only eight months old. The affection did not present a contagious character, and it was more common in the spring and summer than in the months of autumn and winter.

The symptoms are purely of an objective character, and it is worthy of note that, in children, herpes assumes a benign type. There is generally a slight febrile reaction, accompanied with gastric disturbance. The neuralgic pains are much less troublesome than in the case of adults. The author believes the disease to be essentially an infectious neuritis, and that the characteristic eruption is nothing more than a trophic manifestation which is proportionate to the extent of the lesion. Herpes may have also, however, a traumatic or other origin. The treatment is quite simple, and consists in the local application over the diseased parts of antiseptic remedies.

Purulent Vulvo-vaginitis in Little Girls.

CHAUMIER (*Poitu Médical*, October, 1891) calls attention to the purulent vulvo-vaginitis of little girls, which, according to certain authors, owes its origin to blennorrhagic infection. The writer holds that the disease may also be due to other causes, notwithstanding the presence in the discharges of the gonococcus of Neisser. The disorder is contagious, and is of more frequent occurrence in large cities than in the country. It always exhibits the same aspect, characterized by a thick purulent discharge, agglutination of the great lips and retraction of the vulva and vagina, but without complicating the urethral canal. Vulvo-vaginitis is often ac-

companied with a slight feverish reaction, loss of appetite, frequent and painful urination, the pain being due solely to the passage of the liquid over inflamed parts. In a case related by the author the disease was complicated with an arthritis of the knee-joint. If the malady is left to itself it may last for a long time, but under proper treatment it will generally yield in from two to two and a half months. The treatment consists in the external applications of lotions and in the vaginal injections of corrosive sublimate, followed by the introduction of salol pencils. Salol must also be given internally.

The Treatment of Syphilis in its Inherited Forms.

DISCUSSING the modern treatment of syphilis, Jonathan Hutchinson (*The Practitioner*, June, 1891) says that in inherited forms inunction is easily practised upon infants in a variety of ways, and is usually effectual. He has also found a solution of the bichloride, in small doses, a very efficient remedy and not so liable to purge as the gray powder, which is his favorite prescription for adults. If there is any evidence of bone disease, the iodide of potassium should be combined with it. If the symptoms are severe, and especially if the viscera are involved, infantile syphilis is undoubtedly a dangerous disease, and apt to terminate fatally by marasmus or convulsions. If, however, the specific is well borne, and the child passes favorably through the secondary stage, then he thinks there is, as a rule, very little danger of relapse and a condition of good health may be expected until, at a later period, say eight to fifteen years of age, the liability to keratitis, deafness, phagedenic affections of the throat, etc., may come on. These late manifestations of inherited taint occupy, in reference to treatment, a most exceptional position. ^a Although we always

prescribe specifics, they seldom or never appear to exercise any definite power. Keratitis will often run its course apparently almost uninfluenced, or the second eye may be attacked while the patient is under the remedies employed for the cure of the first. As regards the deafness, unless the remedies are used in its very earliest stage, they very seldom prove of any value. It is certainly to be strongly urged, in reference to both the deafness and the keratitis, that mercury and iodides should be prescribed liberally and promptly, but we must be prepared to encounter much disappointment, and to forego all hope of the rapid cures which the same remedies often effect in other conditions. It may be well that we should remember, in reference to this class of maladies, that they occur in those in whom probably the syphilitic virus has long ceased to be active, and who would be quite incapable of conveying the disease by contagion. They are tissue maladies, not the result of existing blood-poisoning; hence, probably, in part, the impotence of mercury to manifest its specific power. There is no microbe left for it to kill.

The Treatment of Typhoid Fever in Children.

IN the common forms of typhoid fever, without complications, occurring in children, Jules Simon (*Le Bulletin Médical*, November 15, 1891) favors, in the first place, the application of all hygienic measures. The bed-clothing should be changed night and morning. At the same time the patient should be given, morning and

evening, a sponge bath with aromatized water (thymol, cologne water) at a temperature of 30° C. If the body heat rises to 40° C., these baths should be repeated frequently until the temperature is lowered. After the rubbing, which should be done rapidly, the patient is to be well wrapped up in order that a slight reaction might oc-

cur. Cold-water baths should be applied *only* on the appearance of ataxo-dynamic phenomena. In such cases the patient is to be immersed in water at a temperature of 35° C., and allowed to remain about a quarter of an hour, when the temperature of the water should have fallen to 25° C. The bath should be repeated every three hours, according to indications. An enema, morning and evening, should also be employed. If the stools are fetid, borated water, slightly aromatized, should be used. The author recommends the use of lemonade drinks and an *exclusive* diet of broth during the whole febrile period. Milk should be avoided, as, with the exception of rare cases, it is not easily digested, and its administration is generally followed by a febrile reaction. It should be employed only during the period of convalescence. With regard to medical treatment, Simon recommends the use of the sulphate of quinine during the whole course of the disease, the doses of

which should vary according to the age of the patient and the physiological effects produced by the drug. From the fifteenth day of the disorder he *insists* on the administration of the perchloride of iron in ascending doses, given in sweetened water or in the broth. This remedy, which he considers of the greatest value, should be continued during the period of convalescence. If restlessness appears as a prominent symptom, he prescribes the following mixture :

R. Hydrate of chloral, gr. viij.
Tincture of musk, gtt. xx.
Linden-tree water, f 3 iij.
Syrup of orange flowers, f 3 iss.

M. Sig.—To be taken in dessertspoonful doses in the course of twenty-four hours.

Chloral is preferred to the bromide of potassium, owing to the digestive disturbances produced by the latter remedy. The author warns against the use of the extract of quinquina so extensively employed in the case of adults.

PÆDIATRIC THERAPEUTICS.

Diphtheria.

The methods of treatment and the variety of remedies proposed for the treatment of this disease are manifold. Of the local remedies, bichloride of mercury, chlorine, peroxide of hydrogen and sulpho-calcine enjoy the preference.

Waugh recommends the trichloride mixture as follows :

R. Potassii chloratis, 3j.
Ac. hydrochlorici dil. 3 iss.
M. et adde :
Tr. ferri chloridi, 3 ij.
Aquæ,
Syrupi, āā q. s. f 3 iv.

M. Sig.—One teaspoonful every two hours.

Seibert (*Archiv. of Pædiatry*) is a strong advocate of local submembranous treatment. His object is to bring very strong solutions

in direct contact with the deep parts of the mucous membrane. He uses chlorine water (U. S. P.) and a specially-constructed syringe, which terminates in five or six short sharp-pointed needles. After making the injections, he prescribes a gargle consisting of 15–30 grs. of tincture of iodine and 10 drops of concentrated carbolic acid to 4 ounces of water, a teaspoonful to be used for swallowing and gargling alternately every 15 minutes. If the child is too young to gargle, 5 drops of carbolic acid are added to the mixture and a half-teaspoonful administered every half-hour.

Loeffler recommends gargles of corrosive sublimate solutions (1–1000), 3 per cent. carbolic acid dissolved in 30 per cent. alcohol; painting of the throat frequently with 5 per cent. carbolic acid, 2 per cent. bromine and 1 per cent. chlorine solutions.

Manning (*British Medical Journal*) advises the following treatment: A syringe holding 4-6 ounces is filled with a solution of 4 parts pulv. boracic acid and 3 parts glycerin. Heat and mix thoroughly. A tablespoonful of this is dissolved in a pint of water. The nozzle of the syringe is directed well back of the tongue and forcibly emptied, receiving the water which rushes out in a small basin. This to be repeated every two or three hours.

Van Wyck (*Med. Record*) divides the diseases into five stages, and uses appropriate remedies for each stage. His *modus operandi* is to administer 3-10 grs. of calomel combined with 2 grs. of bicarbonate of soda during the stage of invasion, to be repeated every fourth hour until stools are colored green. He then sprays the parts with peroxide of hydrogen 1-3 parts of water, and when the membrane is limited to a circular area, he paints the parts with peroxide of hydrogen (full strength), taking care not to get it on the adjoining healthy tissues. The spraying is repeated every two hours, the painting three times daily.

F. Henmann gives first a purgative dose of calomel, and after effect is established he prescribes:

R. Metallic iodine,	gr. v.
Alcohol,	3v.
Chloroform,	3ss.

M. Sig.—External use.

After washing the pharyngo-nasal mucous membrane with lime-water, the mixture is applied, to be repeated after six hours. Energetic perspiration is then provoked, the patient being allowed to perspire for two or three hours. He is then rubbed dry, and stimulants are administered. The next day a simple application of the iodine is sufficient. The third day's treatment constitutes the same as the first day's, and so on.

Dr. Cohen, of Philadelphia, advocates the use of iced cloths to be applied over the neck, and to extend to the ear in case respiration is interfered with.—*Marcus, Times and Register*.

Dr. Burghardt ardently maintains that the application twice daily of equal parts of sulphur and quinine possesses remarkable powers as a topical application in diphtheria. The powder is blown upon the false membrane, after which, as the disease is in the pharynx, the patient is not permitted to

swallow anything for an hour and a half. As a prophylactic measure, the powder is also insufflated into the nasal cavities, even when these parts are not infected. Internally, he prescribed the tincture of the chloride of iron. In addition, the patients were bathed with vinegar, and were given wine, brandy and milk.—*Prov. Med. Jour.*

The following is one of the best solvents for the membrane:

R. Pepsin (Fairchild's),	3j.
Sodii bicarb.,	gr. xx.
Aquæ,	q. s. ad f 3ij.

M. Sig.—Apply with atomizer every hour at first if necessary.

Nasal diphtheria should be treated by syringing out the nasal cavities with listerine and water. equal parts. with insufflations of boric acid several times in the twenty-four hours.

R. Acid boric,	
Sodii borat.,	āā 3ss.
Sodii chlor.,	gr. xx.
Aquæ,	Oss.

Sig.—Inject 3j. warm in each nostril every two hours.—*Powell, Diseases of Children*.

Dr. H. Beyer has treated successfully fifty cases of well-marked, infantile, pharyngeal diphtheritis by the local application of chemically-pure methyl-blue, two parts, and powdered sugar, ninety-eight parts, controlling the fever with small doses of acetanilide, and sustaining the vital forces with extract of beef, egg and milk. The powder is applied as follows: The patient's head is held in a horizontal position, the tongue depressed, and from five to ten grains of the powder are freely applied to the pharynx. This is repeated every two hours. or as often as new crops of exudation make their appearance. Sudden elevation of the head must be prevented, the mouth kept closed to prevent spitting, and no drink or food given for ten or fifteen minutes before and after the application. The nose and larynx did not become involved in cases so treated. When the nose or larynx was involved at the beginning, his results were not so good, owing to the already enfeebled condition and the great difficulty of applying the remedy.

Washing the retro-nasal and nasal space with boiled water and applying the powder with the Devilbiss blower gave the most satisfaction.—*Med. News*, March 7, 1891.

PLATE I.

FIG. 1.



1. Head of Fœtus. 2. Pedicle. 3. Placental (?) site.

FIG. 2.



ECTOPIC PREGNANCY.

ANNALS

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ORIGINAL COMMUNICATIONS.

Extrauterine Pregnancy.

BY A. H. CORDIER, M.D.,
M'PHERSON, KANSAS.

(With Plate I, Figs. 1 and 2.)

ALTHOUGH it has been 128 years since John Bard, a New York surgeon, was the first to operate for ruptured tubal pregnancy in America, little advance was made in this line until Mr. Tait (1882), with his characteristic progressive tendency, took up this subject, and, by reporting his marvellous results, placed the operative management of these serious cases before the surgical world on a firm basis. Today the operation is being performed frequently and successfully by surgeons in all parts of the globe where you find surgeons. Yet this subject is not given as much attention by the teachers in our medical schools as the serious character of this unavoidable, frequent and dangerous accident demands. The early recognition and prompt surgical interference bring very favorable results, and make it all the more desirable and essential that the subject should be understood thor-

oughly by the general practitioner, that he may properly interpret the alarming diagnostic symptoms of this grave malady, and call in the surgeon promptly to save the life of his patient. There are, it is true, times and localities such that an abdominal surgeon cannot be obtained; in these cases, and *only in such situations*, the general practitioner should operate immediately to save his patient from dying from hæmorrhage—the immediate cause of death in the great majority of these cases.

A late writer on this subject, in speaking of the alarming condition in which we find these patients in many cases, says, "I envy the nerve of the man who would recommend an operation, and more still that of him who would carry it out." The surgeon who undertakes these cases must be prepared to encounter any complication liable to be found in this gravest of

maladies. He must not expect to find the anatomical relations the same as those learned in the dissecting-room. The operator will find that an educated finger, good judgment and decisive action are indispensable when he comes to cleaning out a peritoneal cavity filled with blood-clots, and at the same time seeking the source of the hæmorrhage. To enter into minute details, the causation, origin of extrauterine foetation, its pathological anatomy, etc., etc., would be out of the usual order of an article for publication in a medical periodical. Suffice to say that any condition of the Fallopian tube in which the ciliated epithelium is destroyed, and the ovum cannot pass into the uterine cavity, is all that is necessary to give rise to this condition, provided the ovum is impregnated while in the tube. It is only in this locality that extrauterine pregnancy occurs, and all other varieties are only made so by rupture of the tube as the foetus develops. One of the cases enumerated in this article occurring in the practice of Dr. Joseph Price, was what is usually called interstitial pregnancy, and is simply a variety of tubal, taking place at the junction of the tube with the uterus. The course and treatment of this variety do not differ from that in which the foetus is developed farther away from the uterus in the tube, unless by the fact that more difficulty is experienced, and more care should be exercised in passing the ligature and securing the pedicle. A notable feature of this case just referred to (in fact, it is the history of similar cases) was the tendency to recurring hæmorrhages during the intermenstrual period. While this may occur

in any variety of tubal pregnancy, it is especially a characteristic of this so-called interstitial variety. In case difficulty is experienced in procuring a pedicle of safe length at the junction of the tube with the uterus, you can usually secure with a ligature the spurting vessels which are located in the inferior border of the pedicle, and, after cutting away the tube, cover the denuded surface of the uterus by sewing together the divided edges of the peritonæum, or if the tube is not too friable you may ligate close to the uterus and make your pedicle by cutting through the specimen a safe distance from the ligature. The rupture takes place in this variety, in the majority of cases, toward the distal end of the tube.

The history of the eight cases seen by me in the practice of the Prices within the last three months certainly corroborates the deductions of Mr. Tait—that is, that all cases of extrauterine pregnancy are primarily tubal in origin, and that rupture takes place, in the great majority of cases, prior to the fourteenth week of gestation, and that all varieties, such as peritoneal, intraligamentous, etc., were primarily tubal in origin.

In a discussion before the Philadelphia Pathological Society, Dr. H. F. Formad, Coroner's Physician, said, "I don't think it fair on the part of Dr. Price to bring me here this evening to give an account of my laparotomies, because I did not save a single life. Regarding the extrauterine cases I operated upon post-mortem, I may say that they were all cases of *very early pregnancies, all between the first and third months* (Italics mine), with the exception of one, which I found in a sac in the abdominal cavity, and which

was certainly one of the abdominal pregnancies, as the *tube was nearly intact* (Italics mine). This one case was a foetus carried to about the sixth month of gestation, *perfectly dry and encysted*. All the other cases, thirty-five in number, were tubal." I refer to Dr. Formad's discussion, for the purpose of showing that all cases of extrauterine pregnancy are primarily tubal, and also to show with what frequency death from rupture and the resulting hæmorrhage occur unrecognized before the post-mortem reveals the true character of the condition causing death. Every case reported by Dr. Formad, had it been recognized early and treated promptly, might have been saved. It would be unjust to the physicians of Philadelphia to imply that this error of diagnosis occurs only to those practising in the Quaker City. In 3,500 post-mortems made by Dr. Formad, thirty-five deaths, or one per cent., were found to have been due to ruptured tubal pregnancies—a startling and true revelation.

It is evident that all cases of tubal pregnancy rupture at some period, unless the growth of the foetus is stopped by some means; but the methods advocated to check the growth of the embryo are so uncertain in their results, so unsurgical and so dangerous to the mother, that they are to be practically excluded from the management of these cases. When the rupture takes place between the layers of the broad ligament, the hæmorrhage is limited by the resistance offered by the surrounding structures, death rarely occurring to the patient from this first rupture. The foetus may, in this situation (and, in fact, it is the only one in which it does

continue to grow—Tait), survive the accident and either continue to grow to the full period of gestation or rupture secondarily into the peritoneal cavity, and cause speedy death of the mother from hæmorrhage. The foetus may and often does die after the primary rupture, giving rise to suppuration in the leaflets of the broad ligament, leading to pelvic abscess, which may at any time burst into the peritoneal cavity, producing a rapid septic peritonitis and death, or it may open externally, by one or more fistulous tracts, through the vagina, rectum, bladder or intestines. With rare exception, the dead embryo becomes encysted and remains for years, placing the life of the woman in constant jeopardy. Cases terminating by suppuration are within the range of surgical interference, with a fair prospect of successful termination when operated upon early.

In those cases where the rupture takes place into the broad ligament, and the foetus continues to grow, the longer surgical work is delayed the greater the danger to the mother from secondary rupture, and the more difficult the surgeon will find it to bring the case to a successful termination.

The growth of the placenta continues to keep place with that of the child, forming large vascular attachments to the surrounding viscera, making it utterly impossible to remove with safety this large foreign body. This necessitates the leaving open of the abdominal incision to allow the sloughing placenta to escape. The patient must run the risk of acute septic infection or of a more or less prolonged convalescence from slow removal of the placenta, with dan-

ger of a septic absorption during its detachment. When the tube ruptures into the peritoneal cavity the hæmorrhage is always of the most profuse character, killing in many cases within a few hours after the rupture unless controlled by a good stout ligature quickly thrown around the base of the appendage and securely tied.

In a discussion on ectopic pregnancy before the British Gynæcological Society, at a late meeting, Dr. Barrett mentioned a case in which the woman, on the day of her death, attended church, rolled the baby-carriage for an hour, and took her dinner as usual, after giving a history of rupture and hæmorrhage early in the morning of the same day; the pains recurring in the afternoon, followed by death a few hours later. He says of this case that she was a reserved and uncomplaining woman. This peculiar indifference to herself, the husband and friends, is, in itself, a diagnostic characteristic of this condition after rupture has taken place.

The first hæmorrhage may not prove fatal; after giving rise to the most alarming symptoms, the patient may rally to such an extent that the medical attendant and the surgeon may be misled by this false state of security and cause them to question the correctness of their diagnosis. At any moment the hæmorrhage is liable to occur again, and the woman may succumb before the surgeon arrives at the bedside.

A hæmorrhage into the peritoneal cavity differs from a hæmorrhage occurring in any other part of the body; owing to the presence of more or less lymph in this air-tight cavity the blood does not coagulate quickly, and the clots that are formed are soft

and friable, and not of that character to firmly occlude the open mouths of the ruptured bloodvessels and thereby permanently control the bleeding. They are easily washed away by the blood-current with increased force of heart action after the subject has temporarily rallied from the immediate depressing effects of first hæmorrhage. This in part, in my opinion, explains why the bleeding is not permanently checked by the presence of the clots once formed in the vessels, as is usually the case in other parts of the body. The placental site, growth, etc., must not be lost sight of as a cause of renewed hæmorrhage.

The treatment of this intraperitoneal rupture may be summed up in a few words: stop the hæmorrhage promptly, remove the ruptured appendages, wash out the cavity with hot water, and drain. The usual restorative agents and tonics should constitute the after-treatment of these cases.

Dr. Joseph Price, whose experience is only second to Mr. Tait's in the management of these cases, doubts the existence of the intraligamentous variety of ectopic pregnancy, and claims that the rupture takes place into the peritoneal cavity in all cases, and that a veil of inflammatory exudate makes a limiting membrane or sac in which the embryo continues to grow. With an experience of sixty-two cases, Dr. Price has not found a case of the intraligamentous variety, and says he thinks the cases thus called are simply cases with firm inflammatory adhesions formed during the manufacture of the limiting walls of an intraperitoneal rupture. He succeeds in hulling these sacs out, and the case I here mention certainly

bears him out in the above statement. I have a beautiful specimen of a sac of an old, so-called pelvic hæmatocele removed by Dr. Price a few weeks ago. (Fig. 1.) No foetus was found; but the history of the case, and the condition found present at the time of the operation, warranted the opinion of its being an old extrauterine pregnancy of the intraligamentous (Tait) variety, or an old rupture of the impregnated tube, intraperitoneally, and localization of the escaped contents by a wall of inflammatory exudate (Price).

While the diagnosis of ectopic pregnancy prior to the rupture is attended with the greatest difficulty, and is rarely, if ever, made, the symptoms are such, after the accident has occurred, that one can form an opinion warranting an exploratory incision down to the peritonæum. I say to the peritonæum, because if you are in doubt as to whether a *serious* hæmorrhage has occurred or is going on, when you reach this serous membrane, the correctness or error of your diagnosis is at once established, and the proper course for you to pursue in your investigation or management of the case is at once mapped out. If this membrane is darkened or almost black, and bulges through the incision, you may at once know that a hæmorrhage has occurred, or that there is some abnormal condition giving rise to the presence of a dark fluid, and the justifiability of your carrying your investigation further will be at once settled beyond a doubt.

In many of these cases there is a history of some menstrual irregularity or deviation from the accustomed course in the individual case under

investigation, such as the missing of two or three periods, or an irregular intermenstrual flow occurring in a patient previously regular in her periods, culminating in an attack of acute suffering in the region of either uterine appendage, accompanied by symptoms of shock and loss of blood. A train of symptoms like this should arouse the suspicion of the attending physician and warrant him in forming an opinion of the serious character of the case he has to deal with, and he should lose no time in calling in surgical assistance if he would save his patient from a sure and speedy death.

I would like to report in detail each of the eight cases falling under my observation in the last three months. I must forbear lest the reader tire of repetition, and content myself by reporting one case only.

CASE OF EXTRAUTERINE PREGNANCY IN PRACTICE OF DR. JOSEPH PRICE; OPERATION; RECOVERY.

Mrs. A., mother of one child, five years of age; has been regular in her menstrual periods up to ten weeks ago, when she had an intermenstrual flow of blood lasting two days. The same irregularity was noticed the following month, but accompanied by more pain than usual. She has had no subjective signs of pregnancy; more or less pain on right side was noticed for last four weeks, but no acute suffering until one week ago, when a most severe tearing pain suddenly developed in region of right ovary lasting until unconsciousness was induced a half hour later by an attack of syncope. She was placed in bed in the recumbent posture and ordered to keep quiet by her family physician; this injunction she did not obey longer

than two days, as she was free from pain and had recuperated from the former prostration to such an extent, that she felt that it would be folly to remain in bed longer. She resumed her duties as housewife two days later, which speedily brought on another attack of pain and prostration. This time she remained in bed a week, barely alive part of the time. At this time Dr. Joseph Price was called in consultation, to see the patient, and, recognizing the seriousness of the case, recommended an immediate operation. She was placed in his private hospital (it being near by, and the facilities for the treatment of the case being much better there than at her home), and the operation was performed at once. At the time of the operation she was almost pulseless, from loss of blood, the heart beating at the rate of 160 per minute, and its impulse almost imperceptible at the radial artery. She was sighing frequently, and having fainting attacks often; skin was cold and clammy, face bleached, the lips had the appearance of those of an unpainted wax figure. Her condition was one of most desperate character from loss of blood, making the prognosis extremely grave with an operation, and speedily fatal without it. Very little ether was given or required during the performance of the operation. In cutting through the distended and tense abdominal walls, the knife cut through the exsanguinated

tissues as through a piece of cold tallow, not a drop of blood escaping from the divided capillaries or arterioles, so empty were they from the vast amount of blood lost from the circulatory system. On reaching the peritonæum, that serous membrane was seen to bulge through the incision and present the peculiar and characteristic appearance seen in these cases, which of itself makes a diagnosis warranting you to carry your investigation further and seek the source of the fluid. This appearance told the operator that his patient had a dark fluid in the peritoneal cavity, which with the history of this patient was certainly blood, and the blood was from a ruptured tubal pregnancy.

On opening this membrane, a stream of pent-up blood found an exit through the incision, spurting fully two feet high and in a stream the size of the abdominal incision, deluging the operator and his assistant. The pedicle was quickly secured by a good Chinese silk ligature, the bleeding controlled, and the appendage removed. The abdominal cavity was irrigated with a large quantity of hot water, many clots removed, a drainage tube introduced, dressing applied, etc., etc. As expected, her recovery was slow. She is now perfectly well. The specimen showing the foetus is represented by Fig. 2.

2044 Mount Vernon Street,
Philadelphia, Pa.

Some Contraindications for the Use of Opiates.¹

BY MARIE B. WERNER, M.D.,
PHILADELPHIA.

My object in presenting this subject before the society to-night is manifold. I wish to show that in general practice the indications for the use of opiates are limited. We must fully realize that we have a broader basis for medical science than symptomatology, in order to give our patient the full benefit of our knowledge.

Our position being at all times one of trust, we must endeavor, in helping our patient, to find the cause and remove it, rather than hide the symptoms it gives rise to, by an opiate. Aside from the possible mental disturbances such a course of treatment might induce, it often materially complicates surgical efforts to relieve patients, the results of which we have repeatedly heard discussed at these meetings.

In order to discuss this drug with due fairness it will be necessary to give a few moments to the consideration of its physiological action on the human economy. Prof. Wood, in his *Treatise on Therapeutics*, says: "When opium is taken in such a dose as to produce its mildest physiological effects, it exerts a quieting influence, inducing a peculiar dreamy condition. After a length of time varying according to the idiosyncrasies of the patient and the dose of the drug, this condition passes into sleep, either light, dreamful, natural or heavy and deepening into stupor. On awaken-

ing the patient may return at once to his normal condition; but very often he experiences a state of depression shown by languor, a little headache, nausea or even vomiting, which may last for some hours. One of the most common of these departures from the ordinary course of symptoms, is an excessive depression following the sleep produced by moderate doses of the medicine. This state is seen, so far as my experience goes, most usually in females of weak, nervous organization, such as are peculiarly liable to attacks of neuralgia. The symptoms are a feeling of weakness and prostration, often accompanied by chilliness, dull headache, and giddiness, but especially marked by intense nausea and frequent vomiting."

Bartholow states, that as a rule, opium does harm in all gastro-intestinal maladies in which there is a deficiency in the proper secretion or a suspension of the functions of the liver and kidneys.

Dr. J. B. Mattison, in his valuable paper read before this society in October, 1890, entitled, "The Renal Status of Opium Habitues," arrived at the following conclusions, after a careful analysis: *First*.—The habitual use of opium in any form will cause organic renal disease. *Second*.—The changes most likely to be met with are cirrhotic. *Third*.—The rationale is threefold—vaso-motor changes, impaired general nutrition, and inflammatory action due to non-

¹Read before the Philadelphia County Medical Society, January 27, 1892.

eliminated irritant products. I would further call attention to the valuable contributions of Dr. A. Haig, published in the *British Medical Journal*, 1890. In his studies on the influence of opium and morphia on uric acid, also of the retention of this latter product in the human economy and its relation to the causes of disease, his observations and experiments proved to him that the administration of opium or morphia caused retention of uric acid accompanied by a reduction of arterial tension; that when the effect passes off there is a rebound with an excessive excretion of uric acid and marked high tension often accompanied by headache and mental depression.

Let us look carefully into these statements and compare them with our practical experience; we find that after lulling pain and induction of sleep, we come to a period of depression even after a moderate dose of the drug. This depression is usually followed by a certain loss of resistance to bear any renewal of pain, and, in consequence, it becomes necessary to repeat the use of the drug. Indeed, when we study carefully its action on a previously weak, nervous organization, we find that the description given by Prof. Wood very ably describes the case for us. He tells us: "The symptoms are a feeling of weakness, prostration, chilliness, dull headache, nausea, etc." In the face of this the questions must certainly present themselves to us: Is it wise to simply gratify the desire of the patient? Would it not be better to study the cause and remove it, rather than hide the symptoms which lead us to the origin of the trouble? I refer to cases in everyday practice,

cases in which a periodical monthly pain is lulled to sleep by several doses of morphia or opium, while the proper cause is entirely left out of sight. There is no doubt in my mind that many cases have come to all of us where a case of chronic constipation or continuous indigestion combined with a nervous, irritable temperament, perhaps added to that, or independent of this, an unpleasant skin eruption, etc., claimed our attention.

Quite often a question regarding any menstrual difficulties shows that there is some pain, often varying in severity, and the next question, What do you do for the pain? will often elicit the answer: Oh, I take a little paregoric, or I have some pills or suppositories I use; perhaps previously given to some member of the family for pain. Not infrequently an investigation will show that the main ingredient is some opiate.

In our day of progressive medical science it becomes necessary that we should join hands and forces, first to see if the proper hygienic rules regarding clothing, exercise and cleanliness are scrupulously carried out, and that the proper functions of secretion and excretion are thoroughly understood. If, aside from these precautions, there is still pain, a local investigation should be made by the physician, the condition carefully studied, and the cause removed if possible. To give an opiate in such cases I consider criminal, since the patient receives a double injury; not only is she not relieved permanently, but she is robbed of much of her normal resistance, and I fear many have become chronic invalids; for it is a constant struggle to over-

come the after-effects of the opiate before the time arrives for another relief of the same sort. If the patient escapes becoming addicted to the opium habit she cannot escape the local gastro-intestinal irritation which is invariably set up, and which will defy all medication so long as its cause is kept up.

I can at this moment call to mind three cases in which, three weeks out of four, all sorts of laxatives are used to overcome the amount of morphia taken during the fourth week. The complexion is sallow, the breath heavy, the skin impure; and how can it be otherwise? If an examination reveals no functional trouble other than the local congestion, or possibly some displacement downward, induced by improper clothing or a lack of attention to the proper secretions, is it not at once clear that an opiate in the long run increases the cause of pain? Lulling pain induces no cure, and the resulting constipation acts in two ways to make the patient worse: (1) The pressure of a distended bowel. (2) The absorption of effete products. Let such conditions continue for some years, as they often do, and we have other factors entering the field to make life miserable—sluggishly acting liver or kidneys, a worn-out stomach and not infrequently a nervous wreck.

In order to emphasize this point I shall only have to call attention to a series of comparative experiments on animals¹ made by Dr. Edward Levinstein, and reported in his book on "Morbid Craving for Morphia." His deductions from a number of experiments are as follows:

(1) That internal application of

morphia sooner paralyzes the digestive powers of the stomach than the subcutaneous injection.

(2) Both ways of administering morphia bring on functional disorders of the secreting nerves.

(3) Both cause catarrh of the stomach and intestinal tract.

(4) Large doses of morphia given internally cause a subacute catarrh of the stomach, on account of the irritating chemical action of the morphia.

(5) The subcutaneous injection of morphia causes a chronic catarrh of the intestines in a mechanical manner. In consequence of the impaired influence of the secreting glands due to the action of the morphia, the secretion of the digestive fluids is stopped altogether, or at least diminished in quantity, and consequently the intestinal tract is encumbered for a longer time by the ingesta.

The same author speaks of amenorrhœa and sterility as being a sequence to the continued use of morphia, drawing largely upon the results of his own observations, and accepts Pflueger's theory in explanation of it.

In these days when "preventive medicine" is being advocated by all of us who desire to place medical science on the highest standard, should we not think many times more than twice before we write a prescription for an opiate to relieve pain? In the face of all these facts it becomes a serious question of right and wrong if we stop short of exerting all our knowledge to study the *cause* of the pain we have been called in to alleviate. Often the prescription book is entirely useless, unless its blanks could be filled with directions to the patient how to dress, eat, and give herself the physical care she needs.

The use of morphia after pelvic

¹ Covering a space of time from six days to five weeks.

operations has been discarded by most of our operators, and clearly has been the means of reducing mortality rates, as well as of obviating many of the dreaded after-complications. I recall in one of my early operations the advice given by one of our older physicians, to rely on opium and calomel, which I followed, with the result of having on my hands a sufferer from insomnia and chronic constipation after I discontinued its use. Had I not been careful to destroy all prescriptions, I feel certain I would have had more trouble. Another case comes to my mind, of a patient who had a section done for some pelvic trouble by a physician who also believed in the opium after-treatment. This patient came under my care later, and confessed that she had often helped herself to suppositories after the doctor had stopped their use. My object in referring to these cases is to show the danger of setting up the morbid craving and its attendant evils, with only medicinal doses and in the space of two or three weeks, showing at once the danger a prescription containing an opiate may give rise to in the hands of a nervous patient who has periodical attacks of pain. Such cases do not always reach the state necessary to require hospital treatment, hence are often exceedingly vexing to the physician and surrounding friends. A direct accusation to the patient would often fail to bring the desired results, while the friends and relatives cannot always be relied upon for the tact and discretion so necessary. For that reason the physician must often exercise a vast amount of patience and time, to educate the ones immediately concerned and prove the deleterious effect the

use of opiates has, and, *perhaps*, you can cure your patient.

It may, perhaps, be of interest to quote from a discussion on morphia in the British Gynæcological Society, 1889. Dr. Bantock gave as his experience after surgical operations that patients were much better off without it—they escaped the restlessness which was left as the opium wore off. Dr. Bedford Fenwick called attention to the fact that opium increased the congestion of the kidneys to a dangerous extent and might even go to a complete suppression of urine; also, that it caused a complete atony or paralysis of the muscular tissue of the intestines, thus preventing their acting. Dr. R. T. Smith had given two doses of a quarter of a grain of morphia each in a case of severe shingles; the patient had suppression of urine for twenty-four hours. Dr. Thomas Savage, in his address read at the annual meeting of the Birmingham and Midland Counties branch of the British Medical Association, says, "It is not long since it was the custom to administer opium and morphia as a routine treatment in all cases of peritonitis and any other conditions in the abdomen. We have now learnt the inadvisability of so doing. May we not extend the withholding of these and similar drugs in other states? I have myself thought that the general practitioners rely too much upon anodynes."

In this matter of too sympathetic and assiduous medical treatment, errors rather of judgment than intentional are often committed.

Of no less importance is the behavior of an opiate on a patient of uric acid diathesis, in which a demand for the relief of pain on the part of the

patient often becomes urgent. Here again the researches of Dr. A. Haig show us that the drug tends to store up the acid, that when elimination begins to take place there is often a return of the pain, the patient again demanding relief; in this manner a

cycle can easily become established. These pictures teach us the importance of keeping the drug *entirely out of the reach of the patient*, and the necessity of its *careful* and *conscientious* use where it may be indicated.

1010 Clinton Street, Philadelphia.

The Growth of Fibroid Tumors of the Uterus after the Menopause.¹

BY JOSEPH TABER JOHNSON, M.D.,
OF WASHINGTON, D. C.

THE teaching of the text-books, that uterine fibromata cease to grow or to give rise to symptoms after the menopause, which is so popular in the profession as well as out of it, I believe to be quite erroneous.

The object of this paper is to put on record cases and opinions in opposition to this view of this important subject, and to aid in recasting our views and in modifying our practice.

I have, within the past five years, seen at least a dozen women with large growing and troublesome fibroid tumors of the uterus, who were over fifty years of age; some of them over sixty. These women had been assured by their physicians that if they could get along, somehow, until after the change of life, their tumors would not only stop growing, but that they would lessen in size, and probably go away altogether—at least the troublesome and dangerous symptoms would disappear.

They had been advised against any radical operation, and encouraged to believe that as they grew older they would get entirely well.

In perhaps the majority of cases this might prove to be very good advice; but the point which I wish to make is, that as we are now better acquainted with the history and behavior of these tumors, that this is no longer safe advice to give. We cannot assure any woman that her tumor may not prove to be one of the exceptional cases, and that it may not grow more rapidly even after the menopause than it did before, or that it may not present complications equally distressing or disastrous. When from forty to fifty per cent. of women subjected to supravaginal hysterectomy died from the effects of the operation, this was very safe and conservative counsel to follow. The possible dangers of the tumor were not equal to the probable dangers of the operation.

But since we know more of the

¹ Read before the Southern Surgical and Gynæcological Association, at Richmond, Va.

complications and the possibilities of these tumors late in life, and of the improved technique of operations for their removal, I wish to raise the question as to whether this is any longer the safest advice for a woman with a growing fibroid, and nearing the average of the menopause, to follow.

At least I hope to so modify prevailing views as to no longer permit any positive assurances that the menopause will bring relief and cause the tumor to shrink up and go away.

That others have noticed exceptions to the rule as stated in the books, the following brief extracts from recent writers will testify; though I do not intend to burden this short paper or tax the patience of the association with quotations from the numerous authorities, equally within the reach of all the Fellows of the Society.

In the "Cyclopædia of Obstetrics and Gynæcology," vol. vii, page 49, Hegar and Kaltenback say: "The menopause does not, by any means, check the growth of these tumors in all cases. The tumors sometimes attain a colossal size very rapidly at this period, because they undergo fibro-cystic or other degeneration, or are nourished by newly developed vascular adhesions. But the symptoms are by no means directly proportionate to the size of the tumors. Even small and medium-sized tumors may become so annoying on account of the pains, peritonitic irritation, impaired motion and inability to work, that their removal becomes a vital question to the patients."

Neither does the decrease in the tumor begin as soon as the menses stop in all cases. On the contrary,

the organic forces which maintained the menstrual function being no longer called for are devoted to the growth of the fibroma, and this growth may go on for some time after the menopause; but the rule is that in time the process of atrophy begins and the tumor diminishes, and finally disappears, or nearly so.

The last edition of Thomas, however, just *thoroughly revised* by Mundé, says, on page 523, "When undergoing a certain degree of atrophy, with the cessation of the uterine and ovarian functions, they cease to be to any degree a source of annoyance, or at least of danger." In contrast to the above, Börner, in his work on the Menopause, in vol. xi, same work, says: "The most important fact of all is the circumstance to which attention has already been called in the former pages, to wit: Increase in size of fibromata during and after the climacteric."

As Lawson Tait, for example, observed: "The growth of the fibrous tumor does not cease in every case with the cessation of the menses," and he operated upon four women who had passed the menopause, and suffered with rapidly-growing myomata; and Schorler has reported four histories which show the exceptional growth of fibro-myomata after the menopause. I have, myself, on some occasions, been able to demonstrate such a condition. A lady, aged 56, who was childless, ceased to menstruate at 45, and came to me fifteen months ago, on account of an abdominal tumor, which she herself had noticed two years before. The tumor at that time extended upward to within two finger-breadths of the umbilicus. . . . A little more than

nine months later the tumor extended a finger-breadth above the navel, its other dimensions remaining much the same as before. . . . Three months later it showed a marked enlargement in all directions. Now, the lady, by reason of the further increase in all her symptoms, has for some time entertained the idea of risking a radical operation. I have seen two or three other women with large interstitial tumors which continued to grow in spite of the establishment of the menopause.

Dr. Busey, of Washington, has observed three similar cases.

My attention was attracted to this subject, two years ago, by reading a discussion in the Cincinnati Obstetrical Society, in which a number of speakers referred to cases which were then thought to be notable exceptions to the general rule. Several speakers referred to large and dangerous tumors which they had recently seen in women who had passed the climacteric; and one gentleman referred to a distinguished surgeon abroad, who had reported twelve cases where uterine fibromata had grown into very large and troublesome tumors, requiring removal some time after the total cessation of the monthly periods.

Scattered here and there in journal literature, I have since seen cases reported of fibroid tumors continuing to grow after the menopause; and in conversing with many medical men upon this subject, I have scarcely met with a physician of experience who has not known of one or more instances within the limits of his own practice.

I have notes of the following cases: Mrs. B., colored, age unknown, but

evidently over 60, entered my service in the Providence Hospital, in December, 1888. She had not menstruated for twenty years. She had been a cook in the family of Dr. Yarrow, a near neighbor of mine, until the tumor, by its size and weight, incapacitated her for further service. Contrary to our usual experience in these cases, her change of life had come on very much sooner than usual—I think at about 30—after some very severe hæmorrhage. When she came under my care her tumor was estimated by a number of physicians to weigh at least forty pounds.

Acting upon the advice of Dr. Waite, of the firm of Waite & Bartlett, makers of electrical instruments, from whom I had just purchased a powerful battery, I punctured this immense tumor through the abdominal wall, in the presence of a number of medical gentlemen, and gradually turned on a current of 200 milliamperes. The patient had an uncomfortable time for about a week, but after that she felt better.

I never had the courage to repeat the dose, and the patient left the hospital on account of her fear of a second puncture. I saw her a year ago, but she was no better. She thought she was getting larger, and I agreed with her in this opinion.

Case No. II.—In August, 1891, a colored woman, giving her age as 61, entered my service, in Columbia Hospital, with a very large uterine fibroid. She looked as if she were 81 instead of 61. She was quite gray and very decrepit and feeble. She said she had carried the tumor for upward of thirty years. I think she was right about this, as she said that she was

troubled with it "previously befo' de wah."

She said she had not menstruated for more than twenty years, and that the tumor had doubled in size within the last five years, very much to her astonishment, as she had been told it would go away after the change of life. She went on from bad to worse, and died in a few weeks after her admission. I simply tried to make her as comfortable as possible. Her feet and legs were enormously swollen, and the abdomen contained about a gallon of fluid, causing much cardiac and respiratory trouble. The upper part of the tumor was found, at the post-mortem, to have undergone calcareous degeneration. Indeed, a portion of it, weighing about twenty pounds, was as hard as bone; knives or chisels made no impression upon it. I, however, sawed out a section of the tumor.

Another lobe of it had undergone cystic degeneration, which, upon section, discharged a quart or more of foul-smelling fluid. The ureters were enlarged to the size of my little finger, and both contained pus. The kidneys were both enlarged, softened and dilated, and their pelves contained pus. The peritonæum was greatly thickened.

These are the dangers which threaten patients with large fibroids late in life.

The peritonæum and the abdominal viscera will tolerate a surprising amount of pressure and mechanical interference; but we cannot calculate, with any degree of certainty, at what point of endurance this toleration will cease. In pregnancy, when it is unfortunately associated with albuminuria, the belief exists in the profes-

sional mind that the kidneys have been interfered with in some unusual way by pressure, to cause the symptoms to culminate in eclampsia. Something else must combine in the exceptional cases, with the pressure or the mechanical interference of the uterine tumor, to cause the albuminuria and produce uræmic convulsions, coma and death. What that something is, has not yet been accurately determined. It has been ascertained, however, by Fancourt, Barnes and others, that albuminuria exists in about the same proportion of cases of fibroid tumors as in pregnant women; and I believe that many a woman has been reported to the health office as having died of kidney disease, or intestinal obstruction, or cystitis, or hæmorrhage, or diarrhœa, or exhaustion, or anæmia, or peritonitis, when the exciting and real cause of her death was a fibroid tumor of the uterus. The complicating disturbances are more fatal in women past fifty years of age, as their powers of resistance are less, and the abdominal viscera cannot reasonably be expected to so safely tolerate these interferences and long-continued and increasing pressure after the child-bearing period has passed.

The danger of these tumors undergoing calcareous and cystic degeneration increases after the menopause, although, as I said in the beginning, most authors teach that these cases are more exceptional than our later experience justifies us in believing is actually the case. Most of the cases within my own experience have become cystic, and it is quite possible that what has appeared to be a growth of the tumor has been, in reality, a cystic degeneration. Though the

tumor has greatly increased in size, and produced symptoms of a most distressing character, this may have been no true growth of the tumor. This subject was recently discussed in the medical society of my own city, and the belief was expressed by Professor Kleinschmidt and others that this was the case, and that new vascular connections with the omentum and other tissues explain the growth in some cases after the usual atrophy occurs in the uterus and the appendages. The blood-supply and nourishment of the fibromata are thus kept up, and they continue to grow notwithstanding the senile atrophy of the uterus and ovaries. This probably explains the subsequent growth of those few cases reported after the removal of the appendages for the removal of bleeding myomata.

The second case I operated upon in Columbia Hospital was a colored woman, aged 59, who had carried a large fibroid for twenty years. Her condition was a pitiable one, and she was very desirous for the removal of the tumor. I explained to her all the risks and dangers of supravaginal hysterectomy, but she still insisted on the operation. I still hesitated, and sent her away to the country for three months, at the expiration of which time she returned and demanded that I should keep my promise. She was twelve years past her menopause.

I encountered many adhesions at the operation, and she lost some blood. The incision was very long, and one lobe of the tumor extended up by the side of the liver.

In lifting this lobe out of the wound my fingers penetrated its softened posterior wall, and at least two quarts

of most offensive-smelling fluid immediately gushed out into the abdominal cavity. The operation of supravaginal hysterectomy was finished in the usual way. The abdominal cavity was washed out and a drain tube left in. The patient did not rally well. She vomited much at first, from the effects of the ether, and suffered considerably from pain. A hypodermic injection of morphia was given in my absence, and the vomiting returned and continued until her death, on the fifth day. How much influence the morphia had in aiding the result, I, of course, do not know. Its use is opposed to recent views and to my own practice. It certainly provoked nausea and prevented the stomach from retaining food, which was, however, given by the rectum.

No post-mortem was permitted. Her death was put down to exhaustion, as there were no evidences of peritonitis, though there was plenty of cause for having it from both traumatism and sepsis.

In another case, also at Columbia Hospital, in a colored woman, apparently over fifty, but who still had an occasional menstrual period, where an immense fibroid tumor had undergone cystic degeneration. While the recent medical congress was in session, I invited a number of distinguished gynæcologists to see her, and while they all urged an operation, they all differed in their diagnosis.

At the operation I removed a forty-four pound fibro-cystic tumor of the uterus, and in this case the patient seemed to die, either from shock or the anæsthetic; at least she never rallied, and died in about an hour after being put to bed. She

lost less than a pint of blood, and no hæmorrhage occurred after the operation.

Sir Spencer Wells reports, in his book on uterine and ovarian tumors, twelve operations on fibroid and fibrocystic tumors of the uterus, in women over fifty years of age, and presumably past the menopause—though he does not state this fact—with six recoveries and six deaths. In his table of one thousand ovariectomies, it is clearly shown that the mortality is greater after fifty than before. He presumes this is true of most severe surgical operations. It is fair to presume that if these women had been operated on earlier, their chances for a successful issue would have been greatly improved. I think the following conclusions may be fairly drawn from the foregoing remarks :

(1) That the "rule" stated in the text-books, that uterine fibromata

cease to grow after the menopause, has many more exceptions than is generally supposed.

(2) That *when* they continue to grow after the menopause, they pursue a more disastrous course than before.

(3) They more frequently become cystic, calcareous, or have abscesses develop in them.

(4) These conditions requiring operation according to well-known rules of surgery, the patients are in a less favorable condition for recovery than before the menopause.

(5) If the above conclusions are admitted to be true, it must follow that they furnish additional indications for more frequent and earlier resort to the radical operation.

In the hands of the best operators, in cases where a pedicle can be secured, the mortality of supravaginal hysterectomy is rapidly approaching that of ovariectomy.

Progressive and Conservative Surgery.¹

BY L. S. McMURTRY, M.D.

It is not my purpose, upon this occasion, to attempt to recount the advances and triumphs of general surgery or gynæcic surgery in recent years. These advances and their beneficent results are too familiar to this assembly to need recital or accentuation. It has fallen to our lot to witness the realization of the hopes

of our predecessors who have toiled in these fields in years ago, and to see, in many instances, the perfection of methods hitherto incomplete and inefficient. The highest attained science is established truth; the greatest perfection in art is efficient simplicity. Both are reached only through a long process of evolution, wherein the essential truth is often overlooked, and the pioneer work fre-

¹ From his annual address as President of the Southern Surgical and Gynæcological Association, at Richmond, Va., 1891.

quently overdone. Neither is it my purpose to recite the influence of the optimist and the pessimist so often found in the ranks of our profession: those who have, as it were, discovered a panacea in some new method or remedy, and those who decry all advancement, and find inefficiency and imperfection in everything. I desire to direct your attention to an abuse of terms, as it appears to me, by which great improvements in our work are obstructed, and injustice done both to surgeons and surgery. I wish to make a plea for progressive surgery.

Webster defines the word *conservative* as follows: "Having power to preserve in a safe or entire state, or from loss, waste, or injury." All will concede at once that in time of peril to health or life this word embodies the purpose uppermost in the surgeon's endeavors, and the object of all his labors. This term is a conspicuous one in surgery, and has been used to indicate and classify certain procedures known as *conservative surgery*. But of late this term has been made to have a very wide and altogether arbitrary significance, and is often used in antithesis to *progressive surgery*. Indeed, it has come to be used by certain surgical writers and speakers as synonymous with the word "expectant," to mark methods wherein nature is left unaided in her efforts to resist disease and injury. The word is very winning to the popular professional mind, as well as to the laity, and in its perverted sense is misleading and deceptive. We should enter a protest against the perversion of the word "conservatism," when that word is used to oppose and retard *progress* in surgery, the supreme

purpose and object of which is to "preserve in a safe and entire state, or from loss, waste, or injury."

Not many years have elapsed since it was the established usage of surgeons to defer operation in cases of ovarian cystoma until the patient's general health was impaired and she was reduced by emaciation. This was pronounced *conservative*. When under the leadership of Bantock it was urged that the time for ovariectomy was as soon as the tumor was discovered, before complications arose and before the health was impaired, it was regarded as an expression of "the modern craze for operative interference." With the mortality of the two courses before us, which, I would ask, is *conservative*?

There are certain abnormal conditions of various organs and structures in which the individual can only be rescued from impending death by prompt surgical aid. Such, for example, is a ruptured tubal pregnancy. Here delay and opium and palliatives have been advocated under the misleading plea of conservatism. Is it not the part of conservative surgery to tie the bleeding vessels and remove the disintegrated embryonic structures? In other conditions wherein safety lies only in surgical interference, it is claimed that surgical aid should be invoked only after prolonged treatment by palliative measures, when the medical attendant has been convinced that he is leading a forlorn hope, and that relief will come, provided it comes at all, from operative treatment. This course, whereby operations are performed upon dying patients, is erroneously called conservatism.

One of the great advances of mod-

ern times is in the knowledge we have acquired of the inflammatory diseases of the uterine appendages. Almost thirty years ago two able French surgeons discovered and described these lesions and their deadly effects; but the profession did not heed them. When modern surgery opened the peritonæum to frequent exploration, the truth and importance of the researches of Bernutz and Goupil were realized and accepted.

When Marion Sims announced through the columns of the *British Medical Journal* that he believed the proper course of treatment, in every case of gunshot wound of the abdomen, is to open the abdomen, search for the bleeding points and secure them, and suture intestinal perforations, he was pronounced by many eminent surgeons to be a dreamer. The suggestions of Sims were most timely, and shortly afterward Bull successfully executed the operation. For years the treatment of opium in full doses had been pursued, with

death in waiting. Now there is scarcely a State in the Union that one or more patients have not been rescued from certain death by prompt resort to operative treatment. I mention these circumstances to illustrate and emphasize the point which I wish especially to bring before your attention—viz., that surgery is advanced more by the aggressiveness of the surgeon than by timidity. In the face of desperate conditions of disease and injury, where there can be no safety whatever in delay and palliation, the only treatment worthy of consideration is the aggressive course which promises success. Under such conditions the most heroic surgery is conservative, and any other course is not conservative.

One of the most convincing arguments as to the efficacy of surgery is that surgeons believe in it. That they do so believe is attested by the promptness with which it is invoked in behalf of their own lives and that of members of their own families.

Note.

THE undersigned is preparing statistics on hysterectomies, considering methods of operating as well as rates of mortality. If the readers of the ANNALS will kindly give their number of cases, recoveries, deaths, causes of death and method of operating—

the latter, if supravaginal, comprising intraperitoneal, extraperitoneal or total extirpation—it will add to the intrinsic worth of the tables.

MARIE B. WERNER.

1010 Clinton St., Phila.

EDITORIAL.

WITHIN a comparatively short time, a large number of excellent works on gynæcology and obstetrics have appeared, in which are gathered up the great advances in the art which have been made in late years. The changes introduced by the complete development of what may be termed the antiseptic system, or more properly by the recognition of infection as the exciter of inflammation, have been so great as to alter completely our point of view in all that relates to prophylaxis, prognosis and treatment. The recent advances in pelvic surgery have not only entirely altered the accepted modes of treating serious pelvic inflammation, but have absolutely recast our whole knowledge of the essential character of pelvic affections, and the nomenclature in which they are described. The books of ten or fifteen years ago are as obsolete for practical purposes as are those of Sydenham or Hunter. To be sure, they are full of information, much of which is true forever, being founded on the great truths of anatomy and of physiology. Much of it being the accurate observation of the phenomena of disease represents the very facts on which our science and art at present rest; but in the essential questions of what to do, and what to avoid, these older works, which were veritable treasure-houses of instruction to men who are yet in middle life, have become obsolete and misleading, and are one by one reappear-

ing in enlarged and greatly revised editions.

As might be expected, however, the younger generation of men who have grown up with the advances in gynæcology and obstetrics, and who have themselves helped to introduce the changes above mentioned, are making their influence felt, and are publishing valuable works. America, Germany and France have all participated in this gynæcological renaissance, some of the fruits of which are gathered up and recorded in the works which we shall have to consider; but, curiously enough, England lags behind. With the single exception of the department of abdominal surgery, which, to be sure, is a very important exception, and which is represented by the work and writings of three or four men, it must be confessed that English works are not up to date in matter of gynæcology; nevertheless, this deficiency is amply compensated by the great light which has been shed on abdominal surgery by Keith, Bantock, Tait, Greig Smith, and Doran. In modern gynæcology it can hardly be said that America has maintained the leading position which it acquired in the last generation; for the thorough investigation and complete adoption of all the changes dependent on the principle of avoidance of infection we have to thank the scientific research and unapproachable discipline of the German clinics. To France we owe

not only the earliest researches into the germ theory by Pasteur, but the practical results due to the surgical genius of Pean, and the great impetus given to electrical therapeutics by the patient and careful studies of Apostoli. Above all, it is pleasing to note the result of the fine French talent for lucid description and admirable arrangement in the recent works which have appeared there. As late as 1885, when in Paris, we could find no such thing as a gynæcological specialty there, nor was there a gynæcological department of any hospital. The operations were done, and not very well done, by general surgeons, who, with the exception of Pean, showed no particular talent for their work. Since that time there has arisen a galaxy of skilful operators and admirable writers. Confining ourselves for the present to the latter, we may mention three names, all those of young men, to whom, more than to any others, France owes her present advanced position in gynæcology and obstetrics. Dropping French Chauvinism, and a national exclusiveness in which the French have only been excelled by the Chinese and English, Doleris, Pozzi and Auvard did not disdain to acknowledge the truth of the motto *fas est ab hoste doceri*. Doleris founded a magazine, *Nouvelles Archives d'Obstetrique et de Gynecologie*, a publication which immediately took, and has continued to hold, a leading place in the periodical literature of our art, and which cannot be neglected

without loss by those who would follow its development in France.

Pozzi has written a large and comprehensive treatise on gynæcology, which is certainly one of the very best extant in any language, combining, as it does, the wise observations of the experienced practical surgeon, the literary investigations in all languages of the indefatigable student, and the clear arrangement, lucid style and polished language of the accomplished and successful teacher.

Auvard, in accepting the editorship of the *Archives de Tocologie*, some five years ago, greatly improved the character and status of that well-known publication. Since that time he has already written two books on obstetrics, and has just completed an important treatise on gynæcology, copies of which will soon arrive in this country. Thus, in various ways, France has again acquired a position in gynæcological and obstetrical science corresponding to what it once held in the last generation; and although much is yet to be desired, both in hospital organization and in clinical teachings, before the nation as a whole can obtain the benefits of modern gynæcology, yet it is cheerful to observe the great progress which has occurred during the last five years, and especially to note the fact that a disposition is distinctly evident to accept knowledge from whatever quarters it may come, and to acknowledge the solidarity of all countries in matters of science.

SOCIETY PROCEEDINGS.

Transactions of the Southern Surgical and Gynæcological Association.

DISCUSSION ON PAPER BY DR. JOSEPH PRICE—"COMPLICATIONS IN PELVIC SURGERY AND HOW TO DEAL WITH THEM."¹

Dr. H. P. C. WILSON, Baltimore: The paper just read by Dr. Price is an interesting one, and should not pass without full and free discussion. He spoke of the complications of pelvic surgery, and there are very few cases that come under my care that are not complicated. The cases he has presented, together with the illustrations, are comparatively common. We see many such as he reports.

The methods of the essayist are very interesting indeed, and I learned a great many points from the reading of his paper. I have seen many cases where there was pus in the cavity without cellulitis; but if these cases are allowed to go on there will eventually be set up a cellulitis, and the consequence is the sooner they are operated on the better.

Another point of importance the doctor makes, and I agree with him, that it is not good practice to use strong antiseptic solutions such as were formerly used. I have seen injury done by them; and, at the same time, I do not believe that in a great many cases the surgeon prefers to operate upon pus in the pelvis per vaginam. I do not believe the trouble can be thoroughly reached in that way.

Another point: Dr. Price seems to prefer drainage in every case. Now, from my own experience, I scarcely believe that we are justified in using a drainage tube in every case. There must be a reason for that. Where there are few adhesions, and these easily separated—where there is little hæmorrhage, and little bloody oozing—I believe that if the operation has been done aseptically, there will be no reason for the insertion of a drainage tube. But what I arose principally for was to ask Dr. Price a question. If he finds a case where there are adhesions of the ovaries, tubes, the uterus, intestines and omentum, all bound together (I do not mean little adhesions, that, by taking hold of them, you can tear away easily, but I mean strong adhesions that cannot be broken up without leaving a considerable wound), I would like to know how he would manage a case like this?

Dr. HENRY O. MARCY, Boston: If, gentlemen of the association, I arose for no other purpose, it would be a great delight to me to commend Dr. Price's admirable work and the enthusiastic devotion which he is giving to it. He has taught me a good many things. Perhaps he will teach me many more; but at certain points I disagree with him in reference to the class of cases in illustration of which he has exhibited this admira-

¹ For paper see December (1891) Number, page 149.

ble specimen. I have thought for a good while that we really had no collections of pus in the pelvic cavity that we could not trace to some one of the diseased organs, and that the so-called hæmatocele of the books was in a large measure a misinterpretation or a fiction. However, I desire to put on record a case that will instruct Dr. Price. I have found what he has been looking for and failed to find.

About eighteen months ago I saw a patient who had been under the observation of three or four different surgeons, with all the evidences of hæmorrhage of the so-called intra-pelvic variety. The question of impregnation had been raised, and it was my belief that it was one of those marked cases, in which operation had been deferred, that should have been treated primarily by abdominal section. I therefore performed laparotomy in the presence of two or three surgeons, and to my surprise I found the hæmatocele beneath the peritonæum, and there were no evidences of the abdominal organs being implicated. I closed the abdomen, and then opened per vaginam, removing about two quarts of clotted and broken-down blood. A large drainage tube was then inserted, careful attention given to the patient, followed by recovery.

In reference to complications, a good deal might be said that has been omitted by our admirable essayist. A recent case affords a point for illustration. I was mistaken in what seemed to be a monocyst. I gave the diagnosis that it was probably a cyst of the broad ligament. The physician in attendance accepted the diagnosis, and, remembering that

cysts of the broad ligament are sometimes cured by tapping, thought that tapping would be the thing.

The attending physician said he had removed a certain amount of clear fluid, and the patient did well afterward. Shortly after this I was asked to come and perform laparotomy, as the tumor had reappeared. Everything now had changed. The tumor was a multiple cystoma of the ovary, and was bound down by adhesions, and they were separated with the greatest difficulty, with many bleeding points about the growth. At the point of puncture there was an abscess. When I asked about her previous condition, the attending physician said that he had forgotten to tell me that she had had an elevated temperature for some days. He did not think that that was worth while taking into account. The complications were such that we failed to make the operation outlined by Dr. Price. It was not the removal of what at the early part of the case seemed to be a very small unattached tumor, but the dissecting out of multiple masses bound down by adhesions, and the uterus so involved that a complete hysterectomy was demanded. Fortunately the patient made a recovery, but it was a narrow chance for life.

In reference to hæmorrhage, I fully believe in irrigation, as has been pointed out to you by Dr. Price. I do not believe it is dangerous to use sterilized water in any amount; we know it may be of advantage.

In reference to packing, I do not think it is necessary to have packing remain as long as forty or seventy hours in order to control hæmorrhage. A few hours will suffice, and

it is very rare, I am sure, in my experience, that I have to pack at all. In the more troublesome cases, with the patient in the Trendelenburg's position, I am able to secure the bleeding points.

With reference to the drainage tube, I shall take exception to the experience of most of the gentlemen present. The reason of my application for the drainage tube is not for the elimination of simple fluids. Dr. Price has said that babies even may be digested by the peritonæum, and speaks lightly of it as if it were an ordinary process of digestion. I am sure a great many things may be disposed of by that wonderful membrane of which we have yet to learn much. There are certain things that we do not want to get into the abdominal cavity, and they are the various bacteria that you and I as surgeons have to fear, and have learned in a measure to control. If we have a septic abscess, we may very properly use a drainage tube; but if we have an aseptic pelvis or an aseptic abdomen, into which we put a drainage tube, I am not sure but that we are likely thereby to further endanger the individual's life. Every time a few drops of fluid are sucked from such a tube, a regurgitating current of air replaces it, and the air itself which is carried in is infected or germ-bearing air, and is almost sure to be dangerous—the introduction of a foreign vitalized element into the pelvic cavity which you and I are thereby attempting to cleanse. Dr. Price has told you that an aseptic blood-clot is not a dangerous thing to leave in the pelvis. I believe it. The danger is from infection, and the problem is how best to prevent it;

when present how best to remove it. These are the factors of practical importance to you and me, in the class of cases we have under discussion this afternoon.

Dr. GEORGE R. DEAN, Spartansburg, S. C.: Too much stress cannot be laid upon the remarks of Dr. Price of being prepared for any emergency in surgery of the pelvis. I will relate a case I have seen recently bearing on that subject. It is true—and every surgeon who has opened the abdomen can fully substantiate what I say—that in almost every case we find something that we do not expect. It was the case of a distinguished operator, in which there was thought to be a simple ovarian cystoma. No preparations had been made for an extensive operation, and what the operation was I have not as yet found out. I know that two surgeons were engaged with both hands in the pelvis, for nearly an hour, pulling and dragging at something. They never finished the operation, and the wound was finally closed. There were many adhesions, and they ruptured something that bled profusely. The surgeons became tired. The next day, at the post-mortem, a sponge was found in the cavity.

I will relate another case in which hysterectomy was contemplated. After the abdomen was opened and an exploration made in the pelvis, the gentleman remarked he didn't think he would do a hysterectomy, that the adhesions were too great, and that he would take out the ovaries, which would answer every purpose. Just there he forgot himself, and instead of surveying the field carefully to see whether he could remove them, he took out one and found that

he could not remove the other. So he left his operation incomplete, the woman going back to bed no better than before.

A third case illustrates the other side in the hands of my friend, Dr. Price. An operation was undertaken for the removal of an ovarian cyst, which was supposed to be the trouble. A huge ovarian abscess was found full of pus, and attached to it was a knuckle of bowel, a perforation and sinus in the wall of the intestine. The operator thought of finding nothing but what he was looking for ; but being ready of resources he removed the pus sac, excised six inches of bowel, made an anastomosis, and approximated the ends at the same time. The patient was put to bed ; time, forty-five minutes. The temperature never rising above 99, a rapid recovery followed.

I have seen accidents such as have been referred to by the bowel being cut ; I have seen the bladder cut, sewed up, and no bad results from it. The surgeon never forgot himself.

In regard to packing, referred to by Drs. Price and Marcy, I would recommend the use of gauze instead of sponges. I have tried sponges, and have found them grafted to the whole peritoneal cavity in fourteen hours, and with the greatest difficulty I have succeeded in separating them. I think the packing might be allowed to remain even longer than fourteen hours, if necessary, if gauze is used.

In regard to drainage tubes, a good many say, "Do not drain unless you have sepsis." I understand that Dr. Price believes in drainage where there are extensive adhesions, and, as the doctor said, in a case of universal adhesions, no operation is complete

unless they are thoroughly broken up. You will leave your patient in as bad condition as you found her if the adhesions are not broken up. Everything should be turned loose. In every case where there is a large surface denuded and a gradual flow of fluid, I think drainage tubes are necessary. You will find that your patient gets along better, the peritonæum being kept dry, and absorption takes place much more readily.

Relative to punctures, I think the puncturing of cysts or anything else should be avoided as much as possible. I will give you a little of my own experience in this connection. In opening the abdomen of a woman for what I thought to be a simple cyst, I used a small trocar. After the incision was made through the walls I punctured the cyst through the incision, and the trocar cut a bloodvessel in the cyst-wall, right under my eyes, and the woman would have bled to death in fifteen minutes. That occurrence can easily happen in any case punctured. I had to stop that bleeding vessel with a ligature before I proceeded with the operation. We should be slow about putting a trocar into the abdomen where we cannot see what we are doing.

Dr. CORNELIUS KOLLOCK: It is hardly worth while for me to state that I was pleased with Dr. Price's paper. I was instructed by it very much. I was particularly pleased with one point, where he says we find pus in the cavity, yet no cellulitis is there. That opinion I have entertained for some time. It is safe for us, I think, to follow the advice of Sir Spencer Wells, that he never knows what he is going to find until he enters the cavity.

I had a case last winter, an old lady

about 68 years of age, who had an ovarian cyst. It went to operate on her for another doctor. When I examined her I hesitated about operating, because I thought the adhesions were too extensive. The doctor said he didn't think so. Well, I said, we shall soon see. I operated, and a quantity of matter gushed out. It proved to be a ligamentous ovarian cystoma, low down in the cavity of the pelvis. It was firmly adherent. It adhered to the bowels, uterus, bladder and the abdominal walls all around. I could not get my fingers between the cyst and the abdominal walls, the adhesions were so firm. Some twenty grains of morphine had been administered daily. I saw the condition of things, and I said it was no use to tear her bowels all to pieces. She had been tapped fifteen times. We closed her up after the pus had been washed from the cavity. There was not a particle of cellulitis. This patient lived three months after the operation. Strange to say, she reduced her morphia from a scruple to three grains a day without apparent discomfort. Appetite and digestion were good; she was cheerful, moved about her house with care, and rode out occasionally. She died very suddenly, probably from heart-failure or sudden effusion in the pericardium.

Dr. A. VANDER VEER, Albany : Dr. Price's work always instructs me. I enjoyed listening to the report of cases, and particularly the ones reported by the doctor. I wish to put on record a few sentences in discussing the paper and the specimen he has presented, and first in regard to abdominal and pelvic surgery. I believe it is possible to make a distinction of this kind. I believe that Dr.

Price is peculiarly fortunate in having as his backing in the profession men who recognize the condition so early that they can bring their cases to him and make a pelvic surgeon of him.

I do not know of any city in the Union, or in fact in the whole world, where there is collected such a number of cases of extrauterine pregnancy as is reported from time to time from Philadelphia. I believe in my own city—and I say it with all deference to the able class of practitioners there—that they need some education yet in regard to the recognition of this condition of extrauterine pregnancy. Cases continue to die in certain portions of the United States that are not recognized, because the family physician is too late in calling in the pelvic surgeon. The abdominal surgeon must do this work, and he is as competent to do the work as the pelvic surgeon.

Regarding pelvic adhesions spoken of by the different gentlemen who discussed the subject, I know of no adhesions so embarrassing as those within the pelvis, and which implicate the pelvic veins. If the adhesions are great, there is a possibility of catching and tearing the iliac vein, and the surgeon needs to be on the alert not to lose his head here, and Dr. Price did not refer to it. I have seen good results in one case where the patient was put in the Trendelenburg position. I believe this position is of value to us as abdominal surgeons in the treatment of such cases. If you remove such a magnificent specimen as Dr. Price has presented to us in the case of a pus tube—such a splendid case of extrauterine pregnancy—I believe, with Dr. Dean and others, that gauze is far

superior for the purpose of drainage, and I simply desire to put myself on record as in favor of it. In these cases I look upon the drainage tube as of more service than simply the removal of septic fluid. It is one of the best danger-signals we can make use of, as it tells us what is going on in the pelvis. Dr. Price made a rather broad assertion, and I am sorry I have to differ with him on that point, that the use of the syringe in cleaning out the drainage tube admits of little or no discussion. I have never used it more than in two cases, and that was some six years ago. I was not favorably impressed with the syringe. I use iodoform gauze. When the patient is taken from the operating-table, a neat dressing has been applied, with the rubber dam placed around the drainage tube, and I am satisfied my nurses can pass down into that drainage tube, every ten minutes, if necessary, a long strip of gauze, carefully, and by capillary drainage we do not distress the patient, and we do not suck in air, which occurs when we use the syringe.

If the pelvic surgeon needs to be exceedingly careful, cautious and calm in his work, it is in closing up all the damage he has done. We are obliged, in loosening adhesions, to use some little force. In loosening them up we may detach the mesentery from the intestine itself in such a way that the intestine is exposed. We should look into this matter carefully. We should make use of the mesentery in such a way that the circulation may be restored, and the gut wrapped up in the folds of the mesentery, surrounded, as it were, with a good, nourishing bloodvessel,

such as Dr. Senn does in his cases of resection. Then, when we have done this, the toilette of the abdomen should be looked after with care as to the replacing of the organs.

Do not let the sigmoid flexure, a little lax, perhaps, rest underneath the sternum. Put the intestines back in their proper position, and arrange the mesentery so that it may be a resistance to the unpleasant adhesions which result in leaving the roughened surfaces of the intestines in such a position as to cause additional disturbances, to follow after the patient has recovered from the operation.

As regards puncture through the vagina, I think the doctor's views are correct. We indorse him. I cannot see very much good from draining through the vagina. A case I just left illustrates a point in regard to adhesions in pelvic peritonitis. A lady, 24 years of age, married four years, no children, two years ago suffered from pelvic trouble of the right side. She came under the care of a physician who does a good deal of minor gynæcology. Last December he punctured through the vagina with an aspirator, and, as he said, withdrew two ounces of pus. Afterward he put in his scalpel at the point where he originally introduced the aspirator and got an unexpected gush of blood. He packed and packed and finally controlled the hæmorrhage, leaving the woman in a serious condition. She went along three or four months fairly well. I saw her in July. The weather was hot; her condition seemed alarming. I could make out a large growth connected with the uterus, extending out into the broad ligament. The weather was so hot that we placed her in a little cot-

tage outside of the bounds of the city, and watched her carefully for four weeks. There was no particular improvement, and it became necessary to do something. I did an abdominal section, made an incision, and as soon as I cut through the peritonæum it was impossible to find any surgical landmark whatever. I made a search through the folds of the small intestines until I found a fluctuating body in the right side, and introduced a trocar. I found a certain quantity of pus, which was evacuated. I then enlarged the opening, and realized that I had a pus sac to deal with. I am frank to say I could not enucleate it. I exposed the small intestines, inserted a glass drainage tube, and packed with iodoform gauze. The patient had had chills a week before; she had a rapid pulse, and was sinking rapidly, vomiting everything taken into her stomach. After this operation she went on until she became nearly a well woman. I do not know what Dr. Price's experience is in these cases; but I was obliged to put in a drainage tube to save her.

Dr. JOSEPH TABER JOHNSON, Washington: I desire to refer to a case, and ask Dr. Price's mode of management of such a complication. The case is one of considerable interest, because the woman has been in bed ten weeks already from the effects of an abscess in the pelvis which broke through the rectum first and discharged a great quantity of offensive pus. Before it broke there was great pain in the right side. The temperature, pulse, chills and sweats all indicated abscess, and during the time of its development the patient's right leg was enormously swollen, similar to milk-leg. She got well of that, and the

condition has now repeated itself on the left side. This mass is behind the uterus, which is in a fixed position. It feels as firm as a brick in the side of a house. The patient has a temperature of 102° in the evening, with a less temperature in the morning. Her left leg is so swollen that it is twice its natural size. I have delayed operation on account of the condition of the leg and the enfeebled state of the patient. I would like to ask Dr. Price how he would manage a complication of that kind. Would he operate at once or wait for improvement?

Dr. JOSEPH PRICE: I may skip some of the points brought out in the discussion, but I shall endeavor to cover the ground. One or two gentlemen spoke of the true pelvic and abdominal surgeon. We feel we are divided into two camps—the old and new schools of abdominal surgeons. You remember the list of "Don'ts" in Peasley's work. Don't do so and so. "Don't remove an ovarian cystoma while the patient can walk a little." "While the cystoma remains small and in the pelvis, does not fill the pelvic basin higher than the ileo-pectineal line," we still have utterance from Sir Spencer Wells not to operate. Dr. Homan, in his long series of abdominal sections, reports but one pelvic operation for pus. The older ovariotomists will not do pelvic operations, and many of them remain obstructionists in this important branch of surgery. I can take tables and demonstrate that my statements in regard to early operative interference are correct. The old authorities deny the existence of pelvic troubles. The London operators declared if they existed at all in London, they all went to Birmingham.

ham for relief. The existence of such troubles was denied in Edinburgh by Keith, who later became quite an expert in their diagnosis. I have respect for Keith, Wells, Homans and others; but Mr. Tait has taught us more about how to save lives and to relieve human suffering than all of the old ovariotomists put together.

Universal Adhesions.—One gentleman asked the question in regard to how to deal with fixation in universal adhesions. I have cases walk into my office with the husband and physician supporting them. Again, I am told by the husband that his wife cannot come to my office, that I have to go and see her, and, if necessary, operate. We, as specialists in pelvic surgery, are the last ones they choose for consultation. The patients give us the appellation of "cutter," a man who "uses the knife." I would just as soon spend a week in jail as to operate on some of these neglected cases.

The Desperate Cases and their Management.—Just here I am prepared to admit that there are cases that are next to impossible to complete an operation upon safely—perhaps one in five hundred. I venture the assertion that there are at least twenty-five women dying in this city of abscess.

In regard to abscesses and the question of their cure by incision, puncture and drainage, Dr. Mundé, of New York, has called attention to vaginal incisions and drainage. He says that his patients came back to him with vaginal sinuses, which refilled and discharged, requiring a second incision. Patients also presented themselves at the Polyclinic with sinuses. The question might be asked, Why do they not close? It is a simple question to answer. The old pus tube is

a sequestrum, the operator incises one pus-pocket in the tube, and a cheesy tube and other pus-pockets remain. Just here I will say a word in regard to appendicitis. Recently Dr. Agnew removed a cheesy appendix from a boy in the twenty-fifth attack. In all probability this boy had been treated by twelve physicians—say twenty-five, I do not think it will be stretching it a bit too much—and twenty-four cures of appendicitis had been reported from time to time, when Dr. Agnew had the specimen in a bottle. I have smiled and covered my face in the Philadelphia Obstetrical Society to hear physicians report cases they had cured, when I knew I had the specimens in bottles on the table for presentation.

Accidents are numerous in pelvic and abdominal surgery. I have had many of them, some due, perhaps, to a little haste. A little more deliberation or care would have avoided some of them. Like David Crockett, "Be sure you're right, then go ahead," and do your work quickly.

In regard to drainage, I believe we all practise precisely the same thing. We may vary a little in our technique, but we understand each other. I am satisfied a healthy peritoneal cavity will digest a small beefsteak, if it is clean. If you are perfectly clean you can sleep in the peritonæum. There is nothing in the way of the peritonæum taking care of healthy, effused fluids in large quantities. A drainage tube is not in the way. The presence of a drainage tube does not prevent the peritonæum from taking care of accumulated fluids as they gravitate to the pelvis; but in the absence of a serous coat below the ileo-pectineal line in

suppurative disease of the pelvis, it will not do it. We can take the records of the older ovariologists. They established drainage by permitting the threads to hang out of the lower end of the incision, but they continued to lose 24 to 38 per cent. of their cases. I would gladly get along without drainage if I could, as it requires an immense amount of work for the surgeon and his nurses, but I know that a patient gets along much better with drainage when it is required. She has a cleaner tongue and a slower pulse. I have put my cases side by side, those in which I have used drainage, and those in which I have not, and the former get along much better. Martin and a few other German physicians do not use drainage tubes. We all know Martin to be a great surgeon; he has done wonderful work as a teacher and writer. We all prize him; but he lost 12 cases in his first 72 pelvic sections, and 14 in 77. Such a rate of mortality in this country would stay our hand. Lives are worth a little more in America than that. Bantock uses the drainage tube, so does Mr. Keith. Keith reported 98 ovariectomies, with two deaths. Bantock saved 93 consecutive cases in the Samaritan Hospital; he has great faith in the tube. Meredith lost 12 cases out of 110 or 112 in the Samaritan Hospital, and condemns the drainage tube. We can prove the importance of drainage with statistics either at home or abroad.

Dr. Kollock called attention to a case of universal adhesions. I will ask the doctor whether he completed the operation?

Dr. KOLLOCK: No.

Dr. PRICE (resuming): Of the first 28 ovariectomies done in America, all completed operations got well. All of the incomplete died. The statistics of the first 28 or 30 cases of ovariectomy in this country were as good as they are to-day. They were all desperate cases, and the mortality was very low. I do not remember the exact figures. Dr. McMurtry can give them to us. I do not wish to offer a criticism of Dr. Kollock's work. He has done the best work in America. Forty-nine ovariectomies with two deaths are hard to beat, and we long to imitate his results. Three intestinal obstructions with 3 recoveries; 3 cases of appendicitis with 3 recoveries—this has been the work Dr. Kollock has done in the past.

In the case to which Dr. Johnson refers to, I should first determine the character of the trouble, then I would settle the point with regard to removing the oedema and phlebitis due to pressure. If there be pus in the case, I should remove it just as if it were in the fascia of the neck.

Dr. HERBERT N. NASH, of Norfolk, Va.: Do you follow any rule in regard to the length of the incision in such cases?

Dr. PRICE: For instance, if I have a small dermoid filling the pelvic basin, I would extend the incision so as to admit my two fingers—a two-and-a-half-inch incision. You can deal with pus accumulations through an incision of that size thoroughly and satisfactorily.

TRANSLATIONS.

Hysterectomy—Retroperitoneal Method.

Abstract from the Centralblatt für Gynäkologie, 1891, Nos. 9 and 35.

PROF. CHROBAK, of Vienna, reports fifty-five hysterectomies, five deaths (mortality, nine per cent.). Extra-peritoneal method—two deaths due to pyæmia, intestinal tuberculosis. Two deaths due to sepsis. Third death, a duplicate case of Olshausen (*Zeitschrift für Geburtshilfe und Gynäkologie*, Band 14).

In spite of these good results, he concluded to adopt the method of total extirpation, thereby hoping to do away with the difficulties encountered in the treatment of the stump; *i.e.*, the length of time in separation of the stump, the possibility of a utero-abdominal fistula, and the nature of the cicatrix (width) often predisposing to a hernia.

Chrobak's method of total extirpation—general disinfection of patient the day previous, and the evening before operation a vaginal douche of sublimate solution. The cervical canal is cleansed with small cotton tampons dipped into one per cent. sublimated alcohol solution, after which an iodoform pencil is introduced into the uterus, and the vagina packed with iodoform gauze.

Steps of operation—abdominal incision; lift out the tumor. Ligate ligamentum infundibula pelvica and lata at the lateral margins of the uterus. Careful preparation of peritoneal flaps from anterior and posterior portion of the uterus extending down to the vaginal junction. Constriction of the uterus with the rub-

ber ligature. Ablation of the tumor above; thorough cauterization of the stump, especially the cervical canal; drawing the edges together with a few stitches over a few layers of iodoform gauze (two or three sutures used for the purpose)—this is to prevent any possible infection. Removal of the iodoform gauze from the vagina. Introduction of the strongly curved grooved sound, and fitted accurately behind the cervical portion (assistant's work); dilatation of the vagina with the aid of forceps or tenaculæ, cutting from above down upon the grooved sound, thus opening through the posterior vaginal wall; unite the free edges with three or four transverse sutures. Ligate each parametrium close to the uterine neck, divide with scissors, careful to leave large flaps if necessary, including a portion of the cervix. All the visible arteries in the flaps are ligated. Division of the anterior vaginal roof, securing the edges in the same manner as in the posterior portion.

Now come two methods:

(1) Uniting the free edges of the vaginal roof, not including the peritonæum.

(2) The introduction of a wicking or gauze drain, treated previously with iodoform, from above, drawn out through the vagina. Closure of the pelvic wound by bringing the peritoneal edges together, beginning from one side, covering all the ligated masses with serous membranes and

the vagina with peritonæum ; cleanse the pelvic floor, replace the intestines, close the abdominal wound by three rows of sutures. Dressings consist of ordinary compress and bandage. The vagina is packed lightly with an iodoform gauze tampon. The time required for this method is as much again as by the extraperitoneal ; the result would, however, in the author's mind, justify its adoption. There is, however, one point which must be watched and left to time to decide—that is, the possible effect it may have upon the bladder and vaginal walls, which have often become displaced by abnormal relations to the tumor. Experience has taught Chrobak to modify some steps of the operation. The peritoneal flaps are made one larger than the other, and extend down to the vaginal junction of the cervix. In large tumors temporary constriction with elastic ligatures, or, if not so large, the immediate ligation of the uterine arteries close to the vaginal roof; incision through the cervix $\frac{1}{2}$ cm. above its vaginal juncture ; energetic cauterization of the cervical canal. The assistant introduces into the vagina a sound, armed at its end with a wooden or hard rubber cup, which supports the cervix during cauterization and shields the vagina from injury ; the canal is thus enlarged to admit an iodoformized wick or drain. (If drainage is not desired, cauteriza-

tion is only used for disinfecting purposes.) The open surfaces of the cervix are slightly cauterized ; and if there should still be bleeding, it can be controlled by the introduction of several sutures from before backward. If drainage is desired, then the ligatures are applied in such a manner as to leave the canal open, through which the wicking drain passes ; tampon of iodoform gauze in the vagina. The peritoneal flaps are now placed so as to cover the stumps in the ligaments and the cervical remains ; the flaps being unequal in size, the line of sutures will not be directly over the cervical stump. The distinguishing point between the intraperitoneal and the above lies mainly in the use of these flaps, by which the peritoneal cavity is entirely closed ; the line of sutures not being directly over the stump or ligatures, any fluid accumulation will find its way in the direction of least resistance, which is through the cervical canal, and hence Chrobak gives it the name of retro-peritoneal treatment of the stump. In nine months he has performed this operation seventeen times, with no deaths ; fifteen cases recovered without a bad symptom ; left the hospital seventeen to twenty-three days. Two remaining cases suffered from a parametric abscess, which emptied itself spontaneously into the vagina.

The Treatment of Uncontrollable Vomiting in Pregnancy.

Berl. Klin. Wochenschrift, No. 30, 1891. Wien. Med. Zeit.

ARMAND ROUTH considers it an unquestionable fact that the vomiting of pregnancy is connected in some way with the existence of some irritation

of the internal os, and concludes therefrom that this portion of the uterine body must be the seat of the treatment for the relief of the vomiting.

The change in the size and position of the uterine body cannot be the single cause of the gastric disturbance. He considers the various methods of treatment heretofore recommended for the relief of this condition as entirely useless, as, *e. g.*, dilatation of the cervical canal, internal medication, cocaine in any method of employment, etc., and advises, as the only and sufficient treatment, the painting of the portio vaginalis and the cervical canal with tincture of

iodine. One or two applications are all that is necessary. He has made use of this treatment for seven years, and has never encountered a case in which the vomiting was not entirely controlled by this means, so that the induction of artificial labor or the production of abortion has not been necessary in any case. Premature delivery is, therefore, only necessary in cases in which there is a dead foetus, or some foreign body, such as a mole, in the cavity of the uterus.

Fatal Hæmoptysis During Menstruation.

DR. MAX FLESCH states, in the *Centralblatt für Gynäkologie*, No. 37, 1890, that he has mentioned in a previous article several cases where death was either due directly to hæmorrhages from various organs during menstruation, or they contributed to the fatal termination together with other symptoms. He then describes a case which came under his observation. The patient was a woman, 28 years of age, who suffered from bronchitis, which, after a confinement, assumed a putrid character. The putridness was some-

what decreased by alkaline inhalations. Two months later a violent hæmoptysis made its appearance during a menstrual period, and caused her death. Upon post-mortem examination, there were found bronchitis and an infarct of the right lung. The source of the hæmorrhage could not be discovered; the heart had undergone fatty degeneration. The uterine mucous membrane was bloodily suffused, and one ovary contained a ruptured cyst one centimetre in diameter, with bloody contents.

P. & P. (Vienna).

Fibro-myoma of the Right Fallopian Tube; Operation; Recovery.

Dr. E. Schwartz (Paris). *Revue Obstétr. et Gynécol.*, 1890, 4.

THE writer describes the case of a 54-year-old patient suffering from a fibro-myoma of the right Fallopian tube. Within the last year the symptoms had become aggravated; a hæmorrhage of four to five days' duration appeared every fourteen days, preceded by epileptiform spasms. On opening the abdomen, a tumor of the size of a hen's egg, and provided with a pedicle about an inch and a half in

length, was found near the uterus and attached to the Fallopian tube. The operation was limited to removal of the tumor, as the appendages were found to be normal. The patient made, excepting a hæmorrhage during the period of observation after the operation, an uninterrupted recovery. The spasms ceased.

P. & P. (Vienna).

Treatment of Weak Labor Pains.

Prof. Max Runge (Göttingen). Therap. Monats-Hefte, IV., 1, 1890.

WEAKNESS of labor pains before rupture of the membranes is hardly dangerous for mother or child, while weakness of pains after the membranes have ruptured may gradually lead to serious damage, as asphyxia and death of the child, grave symptoms of pressure in the mother and dangerous atonic hæmorrhage during the placental period. Runge distinguished (1) *primary* weakness of the pains, *i. e.*, the pains are weak and inefficient from the beginning of labor, which is seen especially in individuals of weak constitution, and in great distention of the uterus by hydramnios or the presence of several fœtuses; and (2) *secondary* weakness of the pains, in which there is good and energetic contraction at the beginning, but which, from too great resistance, as from a large head, a narrow pelvis or rigid soft parts, finally become weaker and even cease.

The treatment of *primary* weakness consists in strengthening the patient by proper nourishment during the course of labor, or, where it is possible, even during pregnancy, the administration of wine, coffee, etc. The bladder and rectum should be emptied, and the supply of good air and the proper temperature of the lying-in-room should be regulated. In weakness of the uterine musculature and slow dilatation of the os uteri, warm vaginal injections of carbolyzed water (1-15 per cent.), repeated every one to two hours, are useful; if these fail, full baths and finally large doses of narcotics are indicated. In abnormal distention of the uterus it is advisable to puncture the membranes as soon as the

os uteri is half dilated, in order to avoid a prolapse of the umbilical cord at a time when version and extraction would be impossible. The treatment of the *secondary* weakness must be more energetic; firstly come stimulants, as wine, champagne; in great sensibility, opiates or a few short inhalations of chloroform are to be advised. In case the pains become spasmodic, large doses of narcotics, as chloroform-narcosis, chloral hydrate (2.0, 30 grs.) by the mouth or 5.0 (1¼3) per rectum, morphine subcutaneously, 0.01-0.02 (¼ to ⅓ gr.), are indicated, in order to give the patient rest. Warm baths of forty-five minutes' duration are often very efficacious.

Puncture of the membranes when the os is incompletely dilated, or the trunk of the child has not descended into the pelvis, is not without danger, as the umbilical cord may prolapse; hence puncture should be avoided as much as possible.

He would reserve the introduction of a bougie into the uterus for especially difficult cases. Frictions of the uterus with the hand are only applicable just before the passage of the head over the perinæum, or during the placental period.

Runge rejects, as does Schröder, the use of ergot during the first and second stages of labor, thus being opposed to Säxinger and Schatz; but, on the contrary, he emphasizes the value of ergot and especially of cornutin (Kobert's) for the placental period. He leaves undecided the question whether strychnine is an oxytocic or not.

P. & P.

Cæsarean Section on Account of Eclampsia at the End of Pregnancy.

By Dr. H. V. Swiecicki, Posen.¹

THE occurrence of eclampsia during pregnancy is accompanied by the most gloomy forebodings as to the welfare of the patient. In no other condition of pregnancy is the prognosis so hopeless. Schauta has calculated the mortality of the mothers who are subject to eclampsia before delivery to be more than 50 per cent. His estimate rests upon the history of forty-two cases. The mortality of the offspring was 42 per cent. In the presence of so unfavorable a prognosis, Halberstma advises the Cæsarean section, by which both mother and child may be saved. The operation is indicated when the supravaginal portion is still undilated, and the condition of the patient has become suddenly grave. The incision cannot always be made to conform to established rules, and that form of operation is to be adopted which the circumstances of the case render most feasible under the existing conditions. Even if the convulsions do not at once subside, the effect of the removal of the uterine contents has an undoubtedly favorable influence upon the course of the eclampsia. Swiecicki was called to a woman in the ninth month, who had been unconscious and in constant convulsions for five hours. There were indications of commencing œdema of the lungs, the child was still alive, but there was

complete closure of the vaginal portion and cervix. Cæsarean section was immediately performed, a well-developed child was delivered, but was so deeply asphyxiated that it did not live. This case is instructive in many ways. It is the eighth case in which the Cæsarean section has been performed on account of eclampsia of the mother. Furthermore, it does not bear out the favorable effect of evacuation of the uterine contents, which has been described by Halberstma as occurring in cases of eclampsia. In the face of the fact that in the presence of eclampsia, during pregnancy, the prognosis is usually very bad, and that in any known mode of treatment the life of the offspring is inevitably sacrificed, even so serious an operative procedure as the Kaiserschnitt becomes justifiable, as the cases of Halberstma and Herff demonstrate that by this means the lives of both mother and offspring may be preserved in cases in which, on account of the large size of the living child, at the end of the term, delivery *per vias naturales* is absolutely impossible. The earlier the operation is carried out, after its necessity is demonstrated, the more favorable is the chance of success.

¹ Dr. Baschkopf, in Wiener Med. Wochenschrift, No. 35, 1891.

Paget's Disease and Eczema of the Nipple.

DR. PAUL RAYMOND has made Paget's disease of the nipple the object of an article published in the

Progrès Medical. From an etiological point of view, some writers are inclined to regard it as an infectious

disease, and class it among the cutaneous psorospermoses. The question of its etiology is, however, far from being solved, for one may well ask whether the coccidiæ which, on microscopic examination, are found enclosed in the morbid cells, are micro-organisms, or simply products of cellular retrogression.

Histologically, it is an epithelioma of pavement epithelium, developing

primarily on the surface of the skin of the nipple, and presenting, in its initial stage, the external appearance of an eczema. It invades, secondarily, the galactophorous ducts, and then behaves like a primitive cancer of the mamma.

From a diagnostic point of view and its differentiation from eczema of the nipple, the following distinguishing characteristics may be drawn :

PAGET'S DISEASE.

1. Develops in women of 40-50 years and above.
2. Ordinarily affects only one breast.
3. Rapid retraction of the nipple, which disappears behind the areola (very important sign).
4. Superficial and insensibly progressive ulceration, with permanent destruction.
5. Surface intensely red and of the color of meat.
6. The diseased surface of a brilliant aspect and marked by spots of ulceration.
7. Base indurated. The tissues about a line in thickness (Crocker). The base feels like a penny beneath one's coat (Morris). Very thin and parchment-like stratum of induration.
8. Margin very clearly defined. This border will be sufficient of itself to make the diagnosis (Vidal). Marked by a fine vascular dilatation (Hallopeau).
9. Sensation of itching or of burning very slight at first, and only intense toward the end of the disease.
10. Continuous and progressive course of the disease without remission. Invincible tendency to extend (Hallopeau).
11. Extends by enlarging its borders, overstepping but little, or not at all, the areola.
12. All treatment useless. Extirpation of the mamma is indicated.

ECZEMA OF THE NIPPLE.

1. Generally develops earlier. Principal causes: pregnancy, lactation, itch.
2. As a rule double.
3. Normal position of the nipple, and frequently, on the contrary, it is swollen and protruding.
4. Surface covered with crust and oozing, which is, however, well limited.
5. Redness less marked.
6. These symptoms not present.
7. Base flexible. No deep infiltration of the papillary layers; hence, no induration.
8. Base irregular, not well defined, on a level with the surrounding skin, never elevated or slanting.
9. Pruritus very pronounced, sometimes intense, even bordering on pain.
10. Remissions and exacerbations of the process, or it may remain stationary.
11. Does not extend by its borders, and may invade a more or less distant and extensive part of the mamma with the formation of vesicles. This occurs most frequently, according to observations, at the lower border and sulcus of the mamma.

A New Operation for Ruptured Perinæum.

Centralb. f. Gynæcol., No. 24, 1891.

ALEXANDER DUKE has proposed, in rupture of the perinæum, an operation consisting of a transverse incision across the perinæum, between the posterior end of the rupture and the anus, carrying the incision upward between the rectum and the vagina until the mucous membrane of the posterior vaginal wall is reached. This is easily accomplished if the left index finger is placed in the rectum as a guide. This incision is now brought into apposition from side to side laterally, with wire sutures, thus approximating the opposite ends of the

incision in the middle of the perinæum. It is easy to see that in this way a powerful perinæum is formed; and if for any reason the operation should not be entirely successful, as no tissue has been removed, any of the other operations for restoration of the perineal body can be undertaken after this operation as easily as before. Duke, however, reports that he has never seen failure of the operation, and healing goes on rapidly and painlessly to complete union of the transposed tissues.

Retention of the Membranes after Delivery.

Brit. Med. Jour., August 9, 1890.

MANY of the simplest questions relating to obstetrics are still under dispute. Amongst these is the management of the placenta and membranes. Some authorities advocate an expectant system, leaving the placenta to be delivered by aid of the uterine contractions alone, unless these contractions prove insufficient. Others, after Credé, believe that a routine practice of expression is in accordance with sound obstetric principles. Dr. Eberhardt has made observations in order to ascertain why the retention of membranes sometimes produces no bad effects, and in others causes grave, if not fatal, complications. Kaltenbach has shown that the danger of retention of membranes does not arise so much from the pieces of placenta or clots which are left behind in the uterus, but rather from the admixture of bacteria with these elements. Clinical research has proved that bacteria do not exist in the uter-

ine cavity. Döderlein and Winter have shown that bacteria are found in the uterus and tubes of healthy women, but naturally exist in the vagina and in the canal of the cervix—the latter being now universally reckoned as a distinct organ from the rest of the uterus. The internal os appears to be the line of demarcation between the segments of the genital canal which normally contain, and those which naturally do not contain, bacteria. On this theory, Eberhardt bases a line of practice. Access of germs to portions of membranes in the uterine cavity must be prevented; all such portions engaged in the cervix and vagina must be carefully removed, those actually in the uterus being left untouched, whilst ergot should be given to expel them. Manual expression seems contraindicated. The vagina must be freed from germs by antiseptic injections. P. & P.

The Surgical Treatment of Chronic Endometritis.

By Dr. R. Pechevin. *Nouvelles Archives d'Obstétrique et de Gynécologie*, 1897, No 11, p. 608.

THE author concludes as follows :

(1) Chronic inveterate endometritis of the body of the uterus is amenable to intrauterine treatment, which alone will bring about a cure.

(2) Cutting is superior to all other means of modifying the mucous membrane of the body of the uterus. It is a rapid, easy and efficacious operation, and acts best when the lesions are limited to the mucous membrane.

(3) Chronic and deep endometritis of the cervix, often coinciding with inflammation of the body of the uterus, should be treated, in the majority of cases, by abrasion of the entire intra-cervical mucous membrane. In the more pronounced forms scarification of the cervix may be tried after gradual dilatation of the uterus. The stretching of the mucous membrane renders the diseased glandular cul-de-sac accessible. This treatment is not dangerous, is easily carried out and is essentially conservative.

(4) Older inflammatory processes developed in the vicinity of the uterus, as perimetritis, parametritis or salpingitis, do not contraindicate curetting. Certain forms of salpingitis, hydrosalpingitis, and even some cases of pyosalpingitis, are liable to retro-

cede under the influence of curetting; this action is more marked when curetting is preceded and followed by dilatation of the uterus. The acute accidents do not constitute an absolute contraindication.

(5) In cases of puerperal septicæmia, grave symptoms demand rapid intervention with the curette.

(6) Outside of these cases the use of the curette is doubtful, especially where periuterine complications exist, which give rise to recent inflammatory symptoms.

(7) If the periuterine symptoms are manifestly kept up and aggravated by the existence of an inflammation within the uterine cavity, then curetting is indicated.

(8) But when the periuterine complications have their own individuality, and they themselves determine the grave symptoms, abrasion of the uterine mucous membrane may have either a favorable, neutral or harmful action.

(9) Possibly the employment of the curette might yield good results in cases of acute salpingitis, but it will fail when the inflammation is situated in the parametrium.

P. & P. (Vienna).

High Temperature in Parturient Women.

Dr. Th. B. Hausen (Copenhagen). *Hospitals-Tidende*, 3 R., Bd. viii., Nos. 6-7, 1890.

THE writer examined a large number of parturient women at the lying-in hospital in Copenhagen with regard to the prognostic importance and influence of high temperature upon treatment. His results were based up-

on about 800 cases, the temperature being taken per rectum, and the patients were examined just as they came to the institution, without any choice being made. Among 362 lying-in women there were 315 with

normal temperature, while in 47 it was 38° C. (100.4° F.) or above; in 7 of the latter this was due to complications which had nothing to do with labor. Of the 315 with normal temperature, 39 (12.4 per cent.) presented symptoms of puerperal infection later; while of those with elevated temperature (40) this was, on the contrary, the case in 24 (60 per cent.). Therefore, the prognosis becomes much more unfavorable when a rise of temperature takes place during the puerperium. It could, however, not be determined how far the prognosis was influenced by the height of the fever, but its duration did not seem to be without importance.

If all things be favorable, the writer would proceed to perform delivery as soon as possible; but still he would have the necessary regard for the child. In case an increased and strong development of the pains would heighten the chances of the child, he would recommend waiting.

The temperature was taken in 121 cases *after the birth of the placenta*.

An elevated temperature was found in 23 cases, while 98 presented a normal one; the puerperal morbidity was 11.20 per cent. in the former and 56 per cent. in the latter; hence the prognosis is also rendered much more unfavorable here as well by the elevation of temperature; but, with quite high fever, it is not so bad as Temesvary and Bächer have asserted. The two cases which presented the highest temperature, 38.7° C. (102° F.) and 39.1° C. (103° F.), had an uneventful confinement.

His investigations during the puerperium only showed the physiological rising and falling of temperature during the course of the first twelve hours after labor. The writer looks for the cause of the pathological elevations of temperature during and after labor exclusively in a puerperal infection of a more or less transient character, and contests the supposition that other circumstances, as the exertion of labor and the psychic excitement, have an influence. P. & P.

The Tubes and Ovaries in Pregnancy.

British Medical Journal, August 9, 1890.

DR. H. THOMSON, of Dorpat, has published some observations on this subject in the *Zeitschrift für Geburts-hilfe*. He found that in pregnancy and the puerperium the tubes underwent noteworthy histological changes. The connective tissue became more vascular and succulent, and appeared also actually to increase in amount during pregnancy. The muscular coat hypertrophied as in the uterus, although to a less marked degree. These conditions underwent retrogressive changes in the puerperium,

as was distinctly observed by Dr. Thomson in the muscle cells. No palpable change was detected in the ovaries, either during or after pregnancy. The fact must not be omitted that these were made on the tubes and ovaries of rabbits. The cornua of the uterus in rodents is homologous to a large segment of the tube in woman. The ovaries in rabbits are not subject to precisely the same physiological changes during adult life as in woman. P. & P.

A Case of Posthumous Labor.

A CORRESPONDENT (in the *Lancet*, July 19, 1890) writes: "At Moglia, in the province of Mantua, occurred a case of post-mortem delivery in some respects unique. A woman, Lavinia Merli by name, subject to chronic epilepsy, had suddenly lapsed into the cataleptic state when in the eighth month of pregnancy. So death-like was the trance, that she was certified as dead and ordered to be buried. The coffin containing the unfortunate woman was closed and deposited in the mortuary chapel, pending the gravedigger's work, when the next morning it was found with the lid raised. The woman's body, now a corpse, was horribly contracted, and, closely pressed between the knees, lay a newborn child, quite dead. The gravedigger and his men, for reasons of their own, kept their discovery a secret and buried the two corpses. The facts, however, leaked out, and the judicial authorities, aided by physicians from Mantua, at once proceeded to exhumate the coffin and examine its contents. A very minute and prolonged inspection was made, with the result that the physicians declared themselves satisfied that the mother was already dead when the child was expelled from the womb.

From the position of the bodies and the commencing decomposition in which they were found, taken in connection with other considerations set out at length in the official report, the conclusion was arrived at that the gases disengaged by the putrefactive process, and seeking an exit, had forced out the fœtus; that, in short, the case was one undoubtedly very rare, but by no means unprecedented, in obstetric experience of "posthumous labor." The incident, however, has attracted notice beyond the Mantuan province, and medico-legal discussion on its details is yet far from being exhausted. It is asked, not unnaturally, if the woman Merli had really ceased to live, how the coffin-lid came to be even partially raised? She is not, by any means, the only patient in catalepsy or "nona" who, in quite recent Italian experience, has been certified as dead and treated accordingly; and the anti-cremationists, making the most of such cases, are warning the public how still more slender, in "apparent death," would be the chances of escape for Merli and her like, if, instead of the coffin, she had been consigned to the crematorium. P. & P.

On the Analgesic Value of Antipyrin Intra- and Post-Partum.

By John Philips, B A., M.D., M.R.C.P., Assistant Obstetrical Physician, King's College Hospital; Physician to the British Lying-in Hospital. *The Lancet*, September 20, 1890.

FIRST used as an antipyretic in large doses, antipyrin has been found during the past five years to be an almost universal panacea in smaller doses for "nerve pain," and is now prescribed

empirically in all cases of neuralgia of whatever part of the body. Its value in certain cases of dysmenorrhœa of the so-called "spasmodic" type, first directed attention to the

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generative organs as a field for its use, and the medical journals up to the present time have scattered through them results arising from the use of antipyrin (certainly of a most variable character) in connection with the pregnant condition and labor.

It was with the object of verifying these results or not, that the author undertook his investigations. He employed the drug in forty-two cases, and selected as many primiparæ as possible, in consequence of the usually more lengthened stage intra-partum; thirty-one were of this type. The others, eleven in number, were chosen at random. The drug was not given until labor had commenced, and until the dilating pains had set in regularly. The number occurring in an hour was noted, and then compared with those which passed in the same time shortly after the administration of the drug. The temperature and pulse were taken at regular intervals, and notes made at the time as to the severity of the pains and the patients' statements as to the relief or not given by the medi-

cine. The author arrives at the following conclusions:

(1) That antipyrin, in doses of fifteen grains, repeated at proper intervals, is a remedy of great value in the dilating stage of labor, and more especially in primiparæ, but that its uncertainty of action renders it less reliable than chloral.

(2) That during the expulsive stage of labor it is useless as an analgesic in whatever way administered.

(3) That in certain kinds of after-pains it is very efficacious.

(4) That it is without any ecboic properties, and has little or no effect on the frequency of occurrence of labor pains during the dilating stage, and does not aid dilatation of the os uteri.

(5) That the effect of the drug appears to be more marked on impressionable and neurotic women, and those of dark complexion and spare frame, than on others.

(6) That it should never be given by mouth without the addition of a diffusible stimulant. (The author used compound spirits of ammonia and cinnamon water.)

P. & P.

BOOK REVIEWS.

TRAITÉ DE GYNÉCOLOGIE. Samuel Pozzi. G. Masson, Éditeur.

This book is a clear, concise and systematic exposition of the subject of gynæcology as it declares itself at the bedside and in the operation-room—an "all-round" book, the trend of which is the truth, and not vain glory.

The classification and sequence of

the subject-matter are good. The indexing is unusually well done, for besides the regular analytical index and index of the names of authors quoted, there is a marginal index of headings, which is always a great help in any reference-book.

The references to the work and to the writings of gynæcologists appear in well-arranged foot-notes, which are

accurate, and which in themselves constitute a good bibliography of the subject.

The book contains about 1,100 pages, and is well and quite profusely illustrated.

Thirty pages are devoted to anti-sepsis, which includes a brief consideration of the care of instruments, the operation room and its contents, the preparation of the parts to be operated upon, the personal preparation of the operator, the preparation of dressings and sutures, and the effect of the most prominent antiseptics.

The directions for giving a vaginal douche are more explicit than any other directions I have seen.

About forty pages are given to the treatment of wounds and pedicles and to suturing and drainage. The use of the elastic ligature and Mikulicz drainage is carefully considered.

The chapter on L'Exploration Gynécologique includes, besides a brief account of many of the instruments and of the tables used, a consideration of the various positions for operation in which a patient may be put, the advantages of bimanual and rectal examination, and directions for palpation and catheterization of the ureters par le procédé Simon et Pawlik.

Under the heading Des Métrites, inflammation of the uterus is considered. At the outset the pathological anatomy is taken up, and in a quiet but masterly way the forms of inflammation of the uterus, hitherto considered distinct, are demonstrated to be the different stages of an inflammation d'origine infectieuse microbienne.

The symptoms, the progress of this inflammation, and the treatment suitable to the different stages, are care-

fully set forth. In this chapter the principles underlying the curetting of the uterine cavity and the description of the technique of this operation are well explained.

The chapters upon inflammation of the appendages of the uterus are especially valuable, because they are not interlarded with inferences and defunct theories, but are full of conclusions based upon the pathological anatomy as studied in the operation-room and with the microscope.

Certain vestiges from the "anciennes doctrines" (Inflammation, Péri-utérine, Peri-métrite, Para-métrite, Pelvi-péritonite, Phlegmon du Ligament large, Adéno-lymphite, Adéno-phlegmon juxta-pubien, Abscès Pelvien, Cellulite Pelvienne) are relegated to modest retirement under the title of Chapter III, viz.: *Péri-métrie-salpingite*. Thus they take their true rank—feeble subordinates to the centric cause of trouble—inflammation in the Fallopian tubes—the inflammation in the tube being an extension of an inflammation from the uterus.

This work also includes the following subjects: Tumors of the Uterus and of the Ovaries, Displacements of the Uterus, Cancer of the Uterus, Deformities of the Genitalia, Troubles of Menstruation, Ectopic Pregnancy and Hæmatocele, Diseases of the Vulva and Vagina.

These subjects are all carefully worked out and have the great advantage of not being diffuse.

The book as a whole is excellent and takes a place among the very best works on gynæcology. L. V. I.

NURSING IN ABDOMINAL SURGERY
AND DISEASES OF WOMEN: A Series

of Lectures delivered to the Pupils of the Training-School for Nurses connected with the Woman's Hospital of Philadelphia, comprising their Regular Course of Instruction on Such Topics. By Anna M. Fullerton, M.D., Physician-in-charge of, and Obstetrician and Gynæcologist to, the Woman's Hospital of Philadelphia, etc. Philadelphia: P. Blakiston & Son.

This little work really supplies a want. With the great increase in the number of abdominal sections now performed, there is a demand for nurses trained in this department, out of all proportion to the number who receive such training under competent instructors. The accomplished author has had abundant facilities for observing and practising abdominal surgery, and all her instructions are clear and judicious, and represent the most finished technique of the Philadelphia School, which has now attained an unrivalled degree of perfection.

There is much valuable advice given to the nurses, for whom this work is intended, in regard to the care of their persons and the best means of devoting, without exhausting, their strength and energies to the great object which they have in view. In every way a high degree of professional feeling and conscientious regard for duty is inculcated befitting the class of educated women who are now studying nursing. Complete directions for the preparation, in a perfectly aseptic manner, of gauze, catgut and silk ligatures, etc., are given, with information concerning various minutiae on which not only the comfort but the safety of the patient after operation is likely to depend. Not only nursing after ab-

dominal surgery, but the care of the patient after and before all gynæcological operations is included, and in the end there is a formulary for preparing articles of diet. There are a great many things in this book which are of value to the physician as well as to the nurse. We recollect that in his lectures on anatomy Prof. O. W. Holmes used to impress on the students the great necessity of learning all the facts concerning the eruptions of the teeth, by calling attention to the mortification of the young physician on finding that the nurse knew more than he did about his own profession. In the same way there are many points in this book which all physicians should know, but of which very many are ignorant; for, unhappily, even as in the days of Socrates, the world is full of people "who think indeed that they know something when they do not know it." We can, therefore, recommend this little book to young physicians who are likely to have the care of patients after gynæcological and abdominal operations, lest, peradventure, instead of giving instructions to the nurse, they should be pained to find the nurse knowing more about important matters than the physician.

A MANUAL OF PRACTICAL OBSTETRICS. By Edward P. Davis, A.M., M.D., Clinical Lecturer on Obstetrics in the Jefferson Medical College; Professor of Obstetrics and Diseases of Children in the Philadelphia Polyclinic; Visiting Obstetrician to the Philadelphia Hospital, to the Children's Department of the Howard Hospital; Member of the American Gynæcological Society. With 140 illustrations, two of which are colored.

Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street, 1891.

In arranging this manual of 290 pages the author has had in mind the practical wants of advanced students or young practitioners who are supposed to have properly studied their anatomy and physiology, but will need a clear and concise guide as to normal and abnormal labors. The large space, therefore, usually devoted to anatomy and physiology is here omitted, while, on the other hand, by a great abundance of excellent illustrations, every process of parturition is delineated in the plainest possible manner. In regard to prevention of infection and surgical interference, the work is thoroughly up to date. The book is clear, condensed and accurate, and is a very good example of the class of practical text-books.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES: A Yearly Report of the Progress of the General Sanitary Sciences Throughout the World. Edited by Chas. E. Sajous, M.D., and seventy associate editors, assisted by over 200 corresponding editors, collaborators and correspondents. Illustrated with chromo-lithographs, engravings and maps. In five volumes. Philadelphia, New York, Chicago, Atlanta and London: F. A. Davis, 1891.

This great work has again appeared in five handsome volumes, forming, as its name implies, a resumé of the progress obtained in all departments of medical science for the past year. The general scope and nature of the work are so well known that it is unnecessary to say much about it here, except to draw

attention to the improvement which has been introduced of having a reference index at the end of each volume.

In regard to the subjects which are particularly within the scope of this journal, it is obviously impossible to go over them here at length, as the literature of all countries has been condensed as far as possible, so that it is difficult to select any points as more worthy of attention than others. Much praise is due to the editors for their conscientious winnowing of the wheat from the chaff, however, for it must be admitted that in the course of the year a great deal has been published which is worse than useless, as the strange ideas of various authors have found expression in current literature containing theories contrary to good sense, and practice abhorrent to good surgery. It is a great advantage to the profession and to the public to have all this mass of literature culled over and edited by men of experience and judgment, and in the Annual this is very carefully done by Drs. Mundé, Wells, Montgomery, Baldy, Dorland, Manton and Parrish for gynæcology and obstetrics; by Drs. Starr and Powell for pædiatry, and by Dr. Mears for surgery of the abdomen. These volumes, therefore, become a trusted guide to the general practitioner and a mine of information to teachers and writers. The publishers deserve much credit for carrying through such a great undertaking on so liberal a scale, and we trust that the Annual of the Universal Medical Sciences will long continue to appear every year, and to maintain the high reputation which it has so fairly won.

PHILADELPHIA OBSTETRICAL SOCIETY,

January 7, 1892.

PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

DR J. M. BALDY:

INTESTINAL INJURIES IN ABDOMINAL SURGERY.

Of the many unpleasant complications with which the abdominal surgeon is confronted in the course of his work, probably none is more appalling than injuries to the intestines, especially if one has not had such injuries to deal with previously, and has not a perfectly clear idea of the various dangers and chances of such accidents. I say accidents, but it must be borne in mind that at times, in order to complete an enucleation or to accomplish a given end, it becomes necessary to deliberately and knowingly cause such traumatisms to a greater or less extent. These injuries are sometimes produced without the surgeon's being aware of their existence; some are only slight, others more serious, and in a certain proportion (unpublished, of course) absolutely appalling. It is quite common, in freeing a Fallopian tube or an ovary from a knuckle of intestine, to tear away the peritoneal coat of the bowel. In fact, it is almost impossible to avoid it, and, excluding a slight amount of free oozing, no harm will have been done, provided the remaining coats are healthy. It may, or it may not, be advisable to place a few stitches, and thus draw the edges of the serous membrane together. Possibly it would be well to do so in every case, with the double object of controlling perfectly any troublesome bleeding which may be taking place, and of reducing to a minimum any chance of adhesions occurring at the point of denudation. If the tear has extended into or through the muscular coats, which is not infrequently the case, especially where the adhesions have been well organized ones, or where they are of such a rotten character that they almost drop apart as they are handled, it becomes imperative that sutures be placed so as to bring the lacerated edges together, provided

only that the injured surface be not too great in extent, or that the surrounding tissue be not too much diseased to stand the tension of the stitches. If either of these two conditions exists, and by placing sutures in properly healthy tissue the calibre of the gut is lessened to a dangerous extent, it becomes advisable to think of some other expedient. Two alternatives exist: either to resect the injured bowel or to place it in a proper position and trust to a complete perforation not taking place, but having first taken the necessary precautions to protect the patient against the results of perforation if it should occur. This last proposition may seem almost reckless to some, but if good judgment be used it may be followed with considerable assurance of a successful issue. In the first place, the chances are largely in favor of non-complete perforation if the mucous membrane be comparatively healthy. Even if the point should have sloughed away, provided it held out for a couple of days, the chances are many that adhesions will have occurred at the point of traumatism, and, by the time the diseased membrane has given away, the fecal matter will probably find a healthy wall of some neighboring knuckle of intestine adhered over the opening, and effectually blocking it up. Or, if this chance fail, still, if a day or so has elapsed, sufficient adhesions will have occurred to confine the extravasated fecal matter to a limited space, and if the surgeon has placed, as he should have done, a drainage tube at the dangerous point, it will more readily find its way up the tube than in any other direction. In fact, the tube will be the only direction in which it can escape without a great deal more effort than I have ever seen made. These injuries, fortunately, occur most frequently in the loops of gut which hang down into or around the brim of the pelvis. At this point the let-alone practice is most safe, as the pelvic walls at once form a barrier to any great ex-

travasation of foreign matter, in all directions but the upward one. Even if adhesions do not occur at once above (they are absolutely sure to in a short while), the drainage tube controls the situation perfectly for the time being, and gives nature a chance to form her barriers, which chance she might have lost in consequence of the sudden great outpouring, had not the tube come to her rescue. In such cases the tube must be cleaned frequently. In other words, no chance is to be allowed for the accumulation of any great amount of bowel contents. My practice is, under any circumstances to have my tubes cleaned at first, every half-hour. With faecal extravasation the cleaning is done every ten or fifteen minutes, or as often as there is indication of anything in the tube, until there is considered no more danger from the fistula. If the injury has occurred in such a position that the injured part would have to remain in the abdominal cavity itself, then I should consider such a procedure extremely hazardous, and would prefer to take the risks of the prolongation of the operation incident to a resection. Although the let-alone treatment might be hazardous, it would by no means be hopeless, even if perforation did eventually occur. Of course, much would depend upon how soon the extravasation took place.

If the resection were determined upon, the quickest method of restoring the calibre of the intestine would be the best. For this purpose the complete closure of both cut ends of the gut and a lateral anastomosis with rings should be preferred. After a further experience of my own, and after watching others who have used them, I am convinced that the solid rubber rings, made by Dr. Ashton and myself for our experiments on dogs, are the best for the purpose.

The injury to the intestines may be simply a small tear, one which can be closed by a few sutures, and the patient be none the worse for the experience. The laceration may be even of considerable extent, but if it only be at such a point that it may be brought up to the incision, there will be little trouble in making good the damage with perfect safety to the patient. Of course, if there has been leakage of intestinal contents into the peritoneal cavity, it goes without saying that careful irrigation should be practised. Provided perfect closure has been secured and

no other indications arise, drainage is unnecessary. It sometimes happens that these injuries occur deep down in the pelvis, at points where it is impossible to successfully deal with them by sutures, or they may have occurred without the knowledge of the surgeon, for instance in pus cases, where all the tissues are rotten. In such a case, a pus tube, especially on the left side, may be enucleated and delivered with perfect ease and without the slightest suspicion of any trouble of the kind, and yet the bowel may be so diseased at the point or points of adhesion that it may slough away within twenty-four or forty-eight hours. In all such cases as these, one must perforce trust to the drainage tube, and in most cases with almost absolute certainty. I have seen a sufficient number of injuries to the hollow viscera during the past few years, to have lost most of my old-time horror of them. I have injured the bowel many times, purposely or otherwise, and have yet to lose my first patient from this cause. The main point is to recognize the injury at the time of its production and then to judiciously provide for its repair or for its results. Where the injury is produced and the fact overlooked, disastrous results may follow. I know of three or four cases in this city, for instance, where a knuckle of intestine was delivered into the wound, surrounded by a ligature and cut away, by mistake, of course. The result in three of these cases was fatal. The specimen told the story in several of them, and an attempt was made to repair the damage, but unsuccessfully. I can find plenty of charity in my soul for the gentlemen who met with these accidents, as my experience in pelvic surgery has taught me that I am just as like as not to be the next victim. If I am, my consolation will be that the surgeons to whom I have referred are all among the most prominent operators of this city. Should I be so unfortunate as to meet with this accident, the method of procedure would be a very simple one. Had I plenty of room, I would make a lateral anastomosis, especially if the injury were above the pelvic brim. If the injury were in such a position that this procedure could not be carried out, the cut ends should be closed as well as possible, taking time into consideration as a serious element; in such a case a drainage tube would take care of any leakage which would occur.

One other class of injury may occur—I

have been so unfortunate as to meet with it myself—which can be successfully treated in a certain proportion of cases. During a difficult and obscure enucleation, the bowel may be torn through a part or its whole circumference. Of course, if it is possible to close the torn ends with sutures, or a lateral anastomosis can be made, one or other of these methods should be adopted. If, however, as will most likely be the case, one end is deep in the pelvis or buried in adhesions, and it is impossible to join and close the two ends, or only possible to do so by the expenditure of much valuable time, it may be advisable or even necessary to adopt a third method of procedure. Confronted with this alternative, it becomes necessary to bring the two ends of the intestine as accurately together as possible, and to keep them in that position as immovable as may be. If such position can be maintained for twenty-four hours, or even less, without extravasation or even with it, nature will have come to our aid with plastic lymph and adhesions, and the chances of saving the case will not be so desperate as might be imagined. The ends being well adjusted, pack them about with stiff drainage tubes; if necessary, three or four. These will go a great way toward retaining immobility, and opium for the first few days will do the rest. The presence of the tubes, acting as a foreign body, will hasten the appearance of lymph and adhesions, and they will amply provide for any extravasation which may take place. Just what proportion of cases will be successful under this treatment is mere speculation. I can only say that I have succeeded with it in the only case with which I have been unfortunate to meet.

It will be unnecessary to give the details of all the cases which have come within my knowledge, but a few illustrative ones of the more serious character, from my own practice, may not be uninformative.

A young married girl, suffering from pelvic disease due to specific infection, was submitted to laparotomy. Double suppurating tubes and ovaries were removed without the slightest difficulty, and no thought of injury to the contiguous viscera. Two days after the operation, the contents of the drainage tube became suspicious in appearance and smell, and in a short while faecal matter was flowing freely from the tube. The intestinal slough came away through the tube in sev-

eral pieces. The patient made a perfect and easy recovery, and was sent home within four weeks. In this case (as all similar cases should be treated) the tube was left in place seven or eight days, just sufficiently long to make sure that the adhesions were firm enough to hold their own. It was then gradually withdrawn, taking about two or three days to get rid of it altogether. All this time the tube was kept scrupulously clean, and washed out at each dressing with boracic acid solution. The patient was kept on concentrated diet. As soon as the tube was withdrawn to a certain point, the intestines quickly closed in to fill up the tube-track and adhered around and over the opening in the bowel. When the tube showed no faecal discharge it was dispensed with altogether.

A young married woman who had suffered from pelvic disease for four years submitted herself to laparotomy. Previous to the operation I had found a small spicula of bone protruding into the rectum, apparently from a small pelvic mass. A suppurating cyst was enucleated on the left, and a badly diseased tube and ovary on the right side. The operation was a very difficult and tedious one, and a suspicion of bowel injury arose during the operation, but was rejected on careful investigation. The day following a nutritive enema was given, which all came up through the drainage tube. This case was treated in a similar manner to the first one and made just as good a recovery, excepting that she had a much more prolonged convalescence.

A married woman who had suffered for years from pelvic disease, and had been in bed with seven or eight attacks of peritonitis, finally submitted herself to abdominal section. Double chronic adherent salpingitis and ovaritis were found. So adherent and displaced were all the pelvic contents that I could not distinguish one from the other. In the course of my enucleation I tore the sigmoid flexure away at about the point it merges into the rectum. At first, when I had delivered it, I thought it was only a laceration, and proceeded to close the rent. This I succeeded in doing very securely. When it came to the irrigation, large quantities of intestinal mucus washed up, and the irrigating nozzle sank very deep into the pelvis. Careful investigation disclosed the fact that the irrigating nozzle passed into the lower end of the torn bowel, and that the upper end had been closed. The

bowel was torn completely through to its mesenteric attachment. The stitches were removed, and the ends of the bowel carefully placed together—it was impossible to insert even a single stitch. The other intestines and the omentum were so placed as to take up as much room as possible, with the object of giving the torn ends the smallest possible chance for displacement. Drainage tubes, judiciously placed, further aided this object and provided for the care of leakage. No *fecal* matter or *flatus* came through the tube at any time. The patient was from the first kept under the influence of opium. The object of this was to prevent any movement which could displace the loose ends of the bowel, and to prevent peristaltic action and the consequent passage of intestinal contents into the field of injury. *Flatus* was passed on the third day from the anus, and a natural bowel movement was secured on the fourth or fifth day. The convalescence was uninterrupted. The drainage tube was removed two days after a bowel passage was secured. The opium was stopped as soon as *flatus* passed. I have at present, at St. Agnes' Hospital, a patient on whom I performed a laparotomy some seven or eight weeks ago. The adhesions began at the abdominal incision. For a considerable time I was in great doubt whether or not I would be able to clear the pelvis. The gentlemen who saw that operation will remember what a terrible one it was. The left ureter was brought into the incision with the mass, and it was necessary to dissect it out. Everything was removed with one pedicle. As I finished the operation and handed the specimen over, I remarked that I was unable to say whether part of the uterus was in the mass or not, nor were any of the visitors able to tell me by examining the specimen. A *fecal* fistula developed in a few days, and later on she was passing *feces* by the abdominal incision, the vagina and the anus. The vaginal opening has closed, the abdominal not quite. *Feces* passed freely from the anus. Large *enmata* do not appear at the artificial opening, so the injury must be in the small intestine. In a few days I shall close the abdominal wound tightly and look with considerable confidence for success. If not, I shall later on open the abdomen, free the adhesions, and make lateral anastomosis.

In many cases, I have brought the edges of the denuded peritonæum together with perfect success as to hæmorrhage and adhesions. In several, where the muscular as well as the serous coat has been torn away, the same procedure has been followed by success. In several cases where nothing but the mucous coat was left, the bowel has been returned and a drainage tube trusted to on account of the cheesy and broken-down condition of the tissues about the denuded spot. I did not wish to resect; stitches would not hold, or would have caused too much encroachment on the calibre of the intestine; the mucous membrane was apparently healthy. In none of these cases was there any bad result. Finally, I have never had a case die from injury to the intestines during an operation.

DR. BARTON COOKE HIRST:

HYSTERECTOMY FOR FIBRO-CYST OF THE UTERUS.

I show here a large fibro-cyst of the uterus. I was sent to the patient by Dr. William Goodell, who was unable to go, and who kindly turned over the case to me. The patient had been in bed eight weeks when I first saw her, with rigors and fever every day. She had gone to bed on account of an attack of peritonitis some three months before, from which she had so far recovered as to be about on her feet for a little while, but was soon forced to take to her bed again. She was in a very bad septic condition generally, and had, besides, large bed-sores on the buttocks that exposed the bones. As a desperate chance, an abdominal section was done and the tumor removed. The contained fluid filled an ordinary slop-jar, and there were universal adhesions. The patient died seven hours after the operation. Had the operation been done early enough, the woman could have been saved. The tumor, although of enormous size, had only been discovered by the attending physician a few weeks before.

SEPSIS AND HÆMORRHAGE AFTER ABORTION. FROM PARTIAL RETENTION OF HYDATIDIFORM MOLE.

This woman entered the Philadelphia Hospital with the history that she had aborted a month before, and ever since had been very ill. She presented a very bad appearance, and had at the time of admission a high tem-

perature and a rapid pulse. On vaginal examination, a mass of exudate was discovered on the right side of the pelvis, and in Douglas' pouch a boggy mass could be felt. The uterus was firmly fixed, the cervix firm, and the os tightly closed. As the woman was in a serious condition, and it was impossible to determine the true state of affairs in the pelvis, an exploratory abdominal incision was made. The exudate on the right side was found to be entirely in the broad ligament. The tubes and ovaries were healthy. The uterus was doubled on itself in such a manner that the upper and lower halves of the posterior wall were glued together. The adhesions were separated, the uterus straightened out, and the abdomen flushed. The woman made a good recovery, the temperature sank to normal, and the exudate rapidly disappeared. A month later there was a profuse hæmorrhage from the womb. On examination, the cervix was found soft and the os patulous. The womb was curetted, and a small fragment of a hydatidiform mole extracted, which had been adherent to the uterine wall. The recovery has since been uninterrupted.

AN OVARIAN CYST, APPARENTLY OF TRAUMATIC ORIGIN.

The patient gave the following history: She had been struck with the fist upon the right ovarian region two years before. After the blow she fainted and was confined to her bed for two weeks. Ever since she has been tormented by frequently recurring attacks of pain on the right side, low down, that have incapacitated her for all work. On examination, an adherent tumor was discovered upon the right side. The abdomen was opened, and the tumor found to be an ovarian cyst as large as an orange, bound down by bands of organized lymph in all directions, like guyropes. The tumor was removed. It looks as if the cyst had its origin in a local peritonitis excited by the blow received two years before.

SPECIMENS FROM A FATAL CASE OF CRIMINAL ABORTION.

The specimens here shown—the uterus and annæxa—were taken from the girl whose case was rather widely commented on lately in the newspapers. She was a prostitute, and had consulted a physician in the northern part of the city to have abortion induced.

The physician inserted a bougie, and instructed the girl to await developments. She became impatient, however, and endeavored to hasten matters with a knitting-needle.

She perforated the vaginal vault, the cervix and the uterine wall in two places. She then became ill, but was not brought to the hospital for a week. On examination, a large decomposing mass was discovered in the uterus and was removed. The whole canal was carefully disinfected and kept clean. The girl's condition was fairly good, and so remained for a while, but soon symptoms of general sepsis and peritonitis appeared. As it was evident that death was imminent, the abdomen was opened to see what could be done. A quantity of horribly fetid pus was evacuated, but the whole pelvic connective tissue was infected, and patches of the pelvic peritonæum had a black gangrenous look. The girl died twenty-four hours after the operation.

SPECIMEN SHOWING NORMAL STUMP ON THE BROAD LIGAMENT AFTER OVARIOTOMY.

The patient from whom this specimen was taken—the uterus and annæxa—died a few days after an operation for the removal of an ovarian cyst. The cause of death was double croupous pneumonia, induced by an attack of "la grippe." The post-mortem was made by a pathologist who reported to me that the peritoneal cavity was perfectly healthy. There was no serum, blood or exudate. It is not often that one has an opportunity to see a specimen like this and to learn from it the normal process of healing in a stump on the broad ligament.

TRUE HÆMATOSALPINX INDEPENDENT OF TUBAL PREGNANCY.

This much-dilated tube, filled with a soft blood-clot, was removed from a woman who had a large and rapidly-growing fibro-myoma of the womb, for which oöphorectomy was done. There can be no question of tubal pregnancy here. The mere macroscopic appearance forbids the idea. It is the second case I have seen of hæmatosalpinx not dependent upon tubal gestation.

DR. J. PRICE :

ONE THOUSAND CONFINEMENTS.

I will briefly preface a report of one thousand cases of confinement, by reference to

these refinements of detail which should characterize obstetrical work. When I took charge of the Preston Retreat I determined to apply and strictly carry out all those refinements of detail and technique which assure the most complete and satisfactory results. First, perfect environs, clean approaches, everything within the four walls of the house without the suggestion of dirt, and also to scrupulously practise those principles of abdominal surgery which the experience of the most successful men of the profession credits with nearly perfect results. I have always felt that a woman, during and for a period after labor, is a wounded woman, and the principles good in abdominal surgery apply in her case. In maternity work, knowledge of the theory, and a thorough practical knowledge of the subject, is of paramount importance. There should be the ability to early recognize all deviations from the normal. The prevention of accident to both mother and child is of first importance. Though we are disposed to boast of our surgical and medical resources—and for this boast there exists some foundation—yet, as Dr. Robert P. Harris with much truth and terseness expresses it, "We have a large number of half-trained obstetricians that are the curse of poor parturient women in our large cities." This statement is strongly reinforced by Dr. Parish, who says: "There is not a school in our country in which adequate instruction in obstetrics is given."

We summon to the support of some of our views, cases cited by Dr. Thomas Oliver, Physician to the Royal Infirmary, Newcastle-on-Tyne. In a very able discussion before the British Gynæcological Society he gives us the results of his own experience, and logical conclusions therefrom. He gives strong emphasis to one of the gospels of all good surgery—cleanliness. He says: "Why not adopt water, which has been found so efficacious by our leading gynæcologists?" Again: "As regards the general treatment of puerperal septicæmia I shall say nothing, for I am strongly convinced that if anything will save a patient, the victim of this malady, it is local treatment early begun and energetically carried out." He goes on with the most heroic forms of local applications and solutions, to cure a malady that surely could have been prevented. Again he says: "During the last eighteen months, I have seen in con-

sultation, twenty-five cases of puerperal septicæmia in Newcastle and the immediate district. This is a large number, but, for some reason or other, this district has lately been scourged by septicæmia as it affects lying-in women. Of these twenty-five cases seventeen died."

I shall append a table of the series of one thousand deliveries at the Preston Retreat without a death from any cause. A large number of complicated labors have been dealt with successfully, both to mother and child. Many feeble and impoverished subjects have been treated.

DISCUSSION.

DR. BARTON COOKE HIRST:

Dr. Price is to be congratulated on his great success, but I think that by all rules of hospital statistics the single death should go on the record. The patient died in the hospital as a parturient case. It is these possible accidents that make a much lower mortality an absolute impossibility. Even including this case, the mortality of one-tenth of one per cent. is a splendid showing. In Paris, if I remember rightly, Tarnier really did have a run of one thousand cases without a death from any cause, but this is exceptional and cannot be kept up. Cases enter any hospital in a state which precludes their recovery. This cannot be avoided. The record of Dr. Price is excellent, and does credit to the obstetrical practice of this country.

DR. J. PRICE:

In regard to statistics that are interesting in this connection, I have a collect of maternity statistics, which I shall append to the paper that I shall read before the County Medical Society. In the Halifax Union Hospital the mortality is 1 in 333. The mortality through Ireland, Wales and Scotland has been three plus for many years. This has been reduced in special maternities. Croom has reduced the mortality in the Edinburgh Maternity. In the new Sloan Maternity, which is an extravagant institution, the mortality is low. I wish here to emphasize the importance of extravagance if we expect good results. Nothing short of it will give good results in maternity or abdominal work. The Sloan Maternity had six deaths in the first 1,000 cases, none avoidable. Some of the cases were like the one

to which I have referred, and might have died as well on their way to the hospital as in it. Tarnier, in his report, includes two deaths from mercury. This statement was made before the International Congress, 1881, and he laments that we have nothing safe. The reference to Tarnier's work is, therefore, an error.

DR. G. BETTON MASSEY :

Dr. Price has spoken of the natural odor of the lochia, and it occurs to me to ask what sort of an odor that is? How unpleasant is it as noticed in the Retreat? Would not the continuous use of vaginal irrigation after childbirth remove it, using such an agent as carbolic acid?

It seems to me that in this connection we should consider the statement of Dr. Hiram Corson, who reported recently some 3,000 cases of labor, in which no antiseptic precautions were used, and yet there was no perpetual fever. He states that in these cases the lochial discharge was usually extremely offensive. The question arises whether or not an offensive lochial discharge might not permit the development of a bacterium of some sort which would oppose the special bacterium of septicæmia. This seems like going backward, but it deserves consideration. Unless such use for this bad odor can be found, I think physicians in private practice will continue to use the post-partum douche daily, during persistence of the lochial discharge.

DR. J. PRICE :

I did not say that the lochial discharge had been at all offensive. It has been perfectly sweet, but to attempt to give a definition for the odor of the lochial discharge, would be like attempting to give one for an acid or an alkali. Chemists have not found a satisfactory definition for either. It is like what we

find all through the *materia medica*. There, every article is prefaced with the statement that its odor is peculiar. I have never tried to settle this question. I ask the nurse if there is any odor, and she states that it is sweet. I am satisfied that in offensive conditions the after-douching and cleanliness are of the greatest importance. In abdominal work, in order to keep the rooms sweet, I have the patients douched after three or four days. I do not want the bad odor from a metrostaxis perceptible in the wards, and it makes the patient much more comfortable to use the douche once or twice a day, after abdominal section.

That holds good in maternity work, although I have never had occasion to practise it. You must remove all dirt and decomposing discharges and keep everything clean.

In regard to Dr. Corson's work, I do not remember how many cases he lost from other causes. In rural districts, with clean men and clean women, it is not so important to use ante- or post-partum douches. Again, we know from experience that, as we approach large cities, the maternity mortality increases. In the valley of Virginia, if a woman is lost in childbed, she is the wife of a drover, a dentist or a doctor, men contaminated with city life. I have made a most careful inquiry from Washington to Stanton in numerous small cities and towns, and where I have found a death following labor, it has been the wife of a drover, a dentist, a doctor or a drummer. There we have a specific cause. Again, the sterile women are the wives of this class. This is a huge subject for discussion, and to enter on it is deviating from maternity work. The value of the ante-partum douche is incalculable for the saving of infants' eyes.

ELLISTON J. MORRIS,
Secretary.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

ORIGINAL COMMUNICATIONS.

Determination of the Sex of the Fœtus.

BY J. ROBERTS BRYAN, M.D.,
PHILADELPHIA.

THERE was published recently an article by Dr. Wilson, of England, as to the determination of the sex of the fœtus, based on a theory concerning the nutrition of the ovum, to the effect that when the ovum is first extruded from the ovary it is much stronger, and its nutritional power is greater than after it has been several days on its way down through tubes, uterus, etc., to be cast away if not fertilized; and if fertilized, while strong, the resulting fœtus will be male; if later, when the ovum has become weakened, female. On the further supposition that ovulation, although not dependent upon menstruation, is *apt* to occur at that time, hence, if impregnation occur before menstruation, the result will be a male child; if afterward, female.

Dr. Wilson did not give out his

theory with a positive conviction as to its truth, but merely suggested it, and asked that physicians should, as far as possible, cite cases either in favor of or against it. In support of his theory I have thought it well to record the following cases:

First.—Mrs. A., aged 35, sent for me, saying that her menses had not appeared for three months; that when they last were seen, and she thought herself well, “something happened” (intercourse), and sickness returned for one day, very scant, and never again, and she thought herself pregnant. She had been told that a child conceived during menstruation would be a monstrosity, and asked me to do something to destroy the child, as she thought it a greater sin to allow such a being to be born than to destroy it. Of course she

was told how foolish she was, and convinced to allow the child to be born, which happened at term, and proved to be a girl. Here impregnation apparently took place immediately after menstruation, the child was a female, appearing to prove Dr. Wilson's theory.

Second.—Mrs. M., aged 34, has had five children, husband travels for weeks at a time, and only home for a few days and then off again. He is a very intelligent man, and has all dates down. The family consists of four girls and one boy. The father has furnished me with the following *facts* concerning last three children:

(1) He had not seen his wife for six weeks; came home for one day and one night; intercourse took place, which was seven days before next expected menstruation, which, however, did not occur, but pregnancy ensued and a boy was born.

(2) Was with his wife three days after menstruation, and not again for weeks; wife never menstruated after that intercourse, and the child was a girl.

(3) Intercourse occurred about six days after close of menstrual period, wife became pregnant and another girl was born.

In this case husband and wife are

both able to tell, by intensity of contact, when conception occurs, and this, combined with his absence from home, appears to make this case a positive and valuable one.

Third.—Mrs. C., aged 28. She is also able to tell by intensity of intercourse that conception took place one day *before* expected menstruation. She was delivered of a boy at term.

Fourth.—Mrs. L., has been pregnant twice; is also able to tell, by feeling of intense degradation, when conception takes place. With the first child, a girl, she is positive that impregnation occurred one day after menstruation. With her other child she can tell nothing in regard to menses, as she became pregnant before menstruation was re-established.

These cases seem all to prove Dr. Wilson's theory, and by endeavoring to be impartial, I have not been able to collect any cases positively disproving it.

This article is merely written to encourage others to relate any cases they are able to collect.

From the nature of the inquiries it is easily seen how difficult it is to obtain data of such a private nature, and as I have been fortunate enough to obtain them, I thought perhaps it might be well to report them.

CLINICAL MEMORANDA.

Children's Hospital.—Surgical Dispensary Notes.

[Service of Dr. G. G. Davis.]

Reported by Joseph C. Bloodgood, M.D.

Case I.—Sarcoma of left kidney in a boy of 15 months, with congenital defects of both eyes and ears.

R. S., æt. 15 months, was brought to the dispensary, October 30, 1891, for a tumor rapidly growing in the left abdominal cavity, which had been noticed two weeks. Family history negative; two children, both breast-fed. Eldest 5 years, healthy. This child had always been a healthy baby. The general appearance was anæmic and delicate, but not emaciated; the head was hydrocephalic to a small degree; the helices of both ears were notched. (Dr. Zentmayer, in his examination of the eyes, noted: "Horizontal nystagmus, one sided opacity in posterior parts of lens, no distinct view of fundus, only a glaring red, and an occasional glimpse of the disk.") The child could see, for it reached for objects and noticed and knew people.

The disposition was quiet; repeated examination of the tumor caused no pain or restlessness. The tumor filled the left lumbar and half of the umbilical regions; it did not extend under the ribs, nor was it connected with spleen or abdominal wall; it began posteriorly retroperitoneal and pushed the viscera to the right and upward; it was solid, smooth in outline, somewhat movable, not tender; had grown very rapidly and painlessly, and as yet no function was impaired; the belly was large, but as yet the abdominal walls were not tense or greatly distended. Two weeks

later the walls were tense, the tumor much larger, the child restless. Constipation was marked. Operation on account of the cerebral condition was not advised, and the case did not return.

Case II.—Gumma of the right thigh in a female child of 15 months, with severe systemic disturbance, with recovery.

Mary R., æt. 15 months, was brought to the dispensary October 20, 1891, with an inflamed and tender swelling on the right thigh—noticed three days.

History.—Two children; first still-born at 6 months. This child born a healthy baby, but when two weeks old blebs and sores formed on hands and feet; at two months sores formed in the mouth and anus; at 5 months was treated in medical dispensary for some syphilitic eruption, which yielded well to inunctions of ung. hydrarg.

Present Condition.—Child had a pale, waxy skin, was very anæmic, but of full, soft flesh; very restless and feverish; the right thigh was much swollen on the outside, the fascia lata was tense, the skin over the middle third was hot, red, and the whole part was painful and tender, all the signs of a forming ulcer; a fever mixture was given, and hot flax-seed poultices ordered to be kept on continually.

On the 22, the fifth day, the child's general condition was very bad. Temperature, 103; pulse, 170;

respiration, 60; its throat was sore; the skin was covered with a copper-colored macula eruption; the stools were frequent, watery and green. It was very weak. A small incision was made through the skin and fascia on the outside of the thigh; a small amount of seropurulent matter discharged itself, relieving the great tension; poultices were continued and brandy, gtt. x, every two hours was given. On the 26th the child was better; the discharge was still small; poultices were continued. On the 30th a cheesy mass with a strong fetid odor presented itself, at the opening; an antiseptic dressing was applied; the child was still improving; on December 3, or the sixteenth day, a cheesy mass of light-yellow color about the size of an egg was removed through an opening of two inches in diameter; the cavity, full of muco-purulent matter, was cleansed and irrigated with peroxide of hydrogen and bichloride, 1-2000, and an antiseptic dressing applied. Inunctions of ung. hydrarg., 3j., morning and evening, were ordered.

The child now made rapid recovery to health. This cavity, which did not connect with the joint, was cleansed every two days and dressed antiseptically; soon the fetid odor ceased; healthy granulation and contraction set in, and in two weeks it was healed, with a small scar, and the case discharged *cured*.

CASE III.—Stone in bladder, girl 3 years. Lithectasy.

Ella B., æt. 3 years and 3 months, was brought to the dispensary in June, 1891, for prolapsus of rectum and vesical irritation,

with a history that since January urination had been frequent, sometimes painful, and at times suddenly the flow would cease and then begin again. The bowel also came down when at stool; suppositories of belladonna and tannic acid were given; an examination was not made; the child was not brought back till October 4, with the same symptoms. The urine was ammoniacal and the parts macerated; the sound diagnosed stone—it was easily felt and heard, and seemed a small stone—as it proved to be.

October 20.—In clinic Prof. John Ashhurst, Jr., easily removed the stone under ether, rapidly dilating the urethra first with a pair of dressing forceps—introduced closed, and withdrawn partly opened—then further dilatation with a dilator and the small finger, which also felt the stone, which was easily grasped with small lithotomy forceps and removed. It proved to be a small phosphatic stone of about three quarters of an inch in diameter, covered with crystals.

The usual rise of temperature occurred five hours after the operation to 103° F. The next morning the temperature reached and remained at normal. Some little oozing of blood occurred for a few hours, and the bowel prolapsed three times during the seven days after the operation which the child remained in the house. On discharge, decoct. querci albæ was ordered to wash the bowel with, when it came down. The case has not returned.

Five other cases of prolapsus of rectum were examined in the dispensary, but no stone was found.

SOCIETY PROCEEDINGS.

New York Academy of Medicine—Section in Pædiatrics.

DR. AUGUSTUS CAILLÉ, CHAIRMAN.

Meeting of January 14, 1892.

CONTRIBUTIONS TO OUR KNOWLEDGE OF DIPHTHERIA DURING 1892.—

A paper on this subject was read by Dr. J. Lewis Smith. It was similar to a paper read by the same writer reported in the issue of the *ANNALS* for April, 1891. The theory has been strengthened that the Klebs-Löffler bacillus is the actual cause of the disease. A bacillus has been found in the mouth of healthy children which does not differ in appearance from the true bacillus, but which does differ markedly in the appearance of the colonies under culture. While the number of individuals in the colonies of the Klebs-Löffler germ are very numerous, with this germ they are very few. It is surmised that these germs are, in fact, the same, but are benign because of diminished power of propagation.

Statistics seem to show that deaths from diphtheria are proportionately less in England than in any other country, and greater in America. The cause of this is uncertain.

Experiments by Löffler show that the germ is destroyed by a solution of bichloride of mercury of the strength of 1 to 10,000, and by numerous other antiseptics. He advises that those who are brought into contact with the disease gargle the throat with a weak antiseptic solution every three hours, that they bathe frequently and make frequent changes of clothing. As to

propagation, it is agreed that the disease is largely carried by clothing and furniture. The value of strict antiseptics is shown by the fact that in a certain diphtheria hospital in Paris, 153 cases were received which were not suffering from the disease and did not contract it during their stay in the wards. Metallic screens were used about the beds, and the dishes were all washed in a hot solution of carbonate of soda, one ounce to the quart. The walls were frequently washed with a sublimate solution. As a disinfectant, the writer has for several years employed the following mixture:

R	Acidi carbonici,	3j
	Ol. eucalypti	3j.
	Spts. terebinth.,	3viij. M.

Add two tablespoonfuls to one quart of water in a pan with broad surface, and maintain in a constant state of ebullition in the room occupied by the patient. This practically removes the danger from those who are caring for the child, and renders the doctor less liable to carry the disease to others.

It was for some time supposed that the germ does not enter the tissues of the body but is found only in and about the membrane. More extended observation show that it does sometimes enter the circulation. A very important point in pathology is the fact that numerous other germs occur in connection with the specific germ of the disease. These unquestionably

modify the disease, and account for the numerous phases under which it occurs, and for the peculiar symptoms which sometimes appear.

In the treatment of diphtheria the tincture of iron still holds its place here as well as abroad. Chlorate of potash is much less used, and has been entirely abandoned by many, chiefly owing to the fear that it may increase the danger of kidney complications. In France benzoate of soda is used in large doses, and also the salicylate of soda. Experiments seem to show that resorcin and salicylate of soda have but slight germicidal power. Peroxide of hydrogen is growing in favor. The usual solution should be diluted one-half for the throat, and much more for the nose. The conviction seems to be growing that the disease must be combatted by careful prophylaxis and prompt local treatment.

Dr. Dessau favored the use of bichloride of mercury internally, believing that it acts by stimulating the liver to destroy the ptomaines. Peroxide of hydrogen as a spray is a valuable remedy. It turns the mucous membrane white, in a way to alarm the inexperienced. The natural color soon returns. Rubber tips should be used for the spray apparatus.

Dr. M. P. Jacobi did not believe that a poison absorbed by the lymphatics, as the diphtheria is, could be destroyed by the liver.

Dr. M. P. Jacobi reported a case of pneumonia which had passed three dangerous crises. The patient was a girl 19 months old, with pneumonic consolidation at the left base. Deferescence occurred on the eighth day, the temperature becoming normal, but the respiration remaining at 50 or 60. At about the same time

symptoms occurred which afterward proved to be due to the formation of pus in the pleural cavity. Soon afterward tympanic resonance developed in a triangular space at the middle of the chest posteriorly. This, the writer thought, was due to fluid in front causing the lung to collapse and retreat backward. While the pneumonic consolidation was present, digitalis was administered for some days as a stimulant, and the child was once placed in a warm mustard bath. This was followed by marked stimulation of the heart's action, but within half an hour a condition of collapse supervened, in which the child nearly died. After some delay a free incision was made into the chest, and twenty-one ounces of pus were withdrawn. The wound did not fully heal for seventy-four days.

Dr. Koplik said that he always favors the exsection of a rib in operations for empyema.

Dr. W. H. Thompson referred to stupor coming on early as an important symptom sometimes seen in pneumonia.

Dr. McBurney said that unless the symptoms are urgent it is best not to operate too early in empyema. He favors, in most cases, exsection of a rib.

Dr. E. H. Grandin reported two cases of appendicitis in children. He first was a boy 8 years of age. The physical signs were obscure. An incision was made in the median line, and two collections of pus were found, one in each iliac fossa. They were thoroughly worked and drained, and the boy recovered.

The second patient was a boy of 7 years. Induration and deep fluctuations could be felt on the right side,

but operation was refused. The child improved and for a week was apparently well. The temperature then began to rise, the child became ill, and had the characteristic aspect of septic poisoning. Operation was at last permitted, pus was found, but the child died.

Dr. R. A. Murray also reported a case of appendicitis in a young boy. The attack began as one of indigestion, with much abdominal pain. The pulse was rapid throughout, and indistinct fluctuation could be felt in the right iliac fossa. There was no chill, no elevation of temperature, little or no tympanitis, and no localized pain. An operation was performed, and a pint of pus was withdrawn from the abdomen. It lay chiefly in the right iliac fossa, but had perforated into the peritoneal cavity. Adhesions had formed so firmly, however, that it had extended but a short distance. A hard mass could be felt in the appendix. It was removed and found to be a cherry pit. The boy was so much prostrated that the operation was terminated as quickly as possible, without removal of the appendix. The cavity was packed with iodoform gauze, and closed. A complete recovery resulted.

The writer believes that pus forms earlier in children than in adults. They rarely have a chill or a fever, but quickly show the peculiar countenance of septic poisoning.

Dr. Kiliani said that the conditions requiring operation were four in number: (1) Acute perforation. (2) Local encapsulated abscess, which appears in the second or third week. (3) Abscess in which the pus steadily increases, with a falling or stationary temperature. (4) Relapsing perityphlitis.

Dr. Stimson said that the cases reported were fortunate, for there had been two recoveries in three cases that might be called late. Operation must be early if successful. The speaker asked if it had not been the experience of others that in children the disease often occurs without fever or local pain, and that pus, when formed, is apt to be diffuse. It is an error to suppose that when a patient has recovered from such an attack he has been cured of his disease. Many recoveries take place, but the attacks are prone to recur, and are more dangerous than the first attack. An operation is indicated when the diagnosis is positively made.

Dr. McBurney said that we have gained much knowledge upon this subject, but it is still impossible to lay down rules regarding the exact time to operate. Local signs are more important than the general symptoms, especially local pain. Pulse and temperature may mislead.

Opinions will differ regarding treatment, until more definite conclusions are reached regarding the disease. The best surgical opinion is, that a remedy has been found, and that remedy is operation. Without operation, over twenty per cent. die; under operation, at all stages, less than ten per cent. have died. In a large number of operations the speaker has lost but one patient in whom the operation was early.

Any remedy adopted as a last resort will, of course, fail to cure in all cases, and get a bad name. In any condition, when the diagnosis is made, the indications for treatment become clearer. If it is decided that process is present that is liable to end in the formation of pus, the time has arrived to operate.

ABSTRACTS FROM CURRENT LITERATURE.

Treatment of Deformities Following Infantile Spinal Paralysis.

In an abstract of a paper read at the Tenth International Congress, Berlin, 1890, De Forest Willard gives the essentials of the surgical and mechanical treatment of the deformities following infantile spinal paralysis. These deformities are produced by muscular atrophy, degeneration, and contracture, together with want of bone-growth, and the distortions which result from locomotion. The deformities are frequently so great that the individual spends his life upon the floor, and the members become so misshapen that they are mechanically unsuited for locomotion, even could muscular power be restored. Surgical measures offer the most rapid and efficient hope for relief in these conditions, and they may be classed under the heads :

- (1) Tenotomy
- (2) Myotomy.
- (3) Division of contracted fasciæ
other tissues.
- (4) Force.
- (5) Resection.
- (6) Osteotomy.
- (7) Amputation.

The first four procedures are frequently combined as one operation. Resection is sometimes desirable at the knee where there is a great bone-distortion, and in frail limbs in order to secure a stiff walking member. Dr. Willard's conclusions are :

(1) Even the severe resultant deformities of infantile paralysis are capable of being benefited by the skillful employment of surgical measures and mechanical appliances. No case with fairly strong upper extrem-

ities should remain in helpless cripplehood, since even crutch locomotion is far preferable to a life upon the floor or upon the bed.

(2) The deformities following infantile paralysis can be largely prevented by the early use of some form of apparatus.

(3) Surgical measures in long-standing cases should usually precede mechanical appliances, since pain and time are thereby saved, and the resulting limbs are in nowise inferior to those obtained by the slower process of mechanical rectification.

(4) The surgical measures to be employed are tenotomy, myotomy, division of the fasciæ, application of force and resection. Osteotomy and amputation are sometimes necessary.

(5) Mechanical appliance should be used to retain the limb in proper position, but they should not interfere with the circulation of the member. Crooked limbs can often be straightened so as to be made part of the apparatus, and the muscles of these limbs should be compelled to do their full extent of work in supporting the body. The apparatus must frequently be made to support a large portion of the weight of the body, the helpless, frail limbs being accessories.

(6) No case should be abandoned without the most careful and repeated attempts of rectification, as even feeble locomotion will in time become greatly improved by exercise in walking, and the health and happiness of the individual will thereby be greatly increased.—*Am. Jour. Med. Science*, May, 1891.

Chorea.

WILLIAM DALE, after studying the literature of chorea and his own cases, comes to the following conclusions: (*Lancet*, October 16, 1891, and November 7, 1891,) First, that although chorea is best defined as a functional disease, to call it a symptom only is simply a strife of words. Second, that from the phenomena of hemichorea and its relation to hemiplegia, we must, at least tentatively, assume that the seat of the lesion of chorea is in the sensory-motor ganglia, at the base of the brain. Third, that the disease very frequently occurs after acute or subacute rheumatism, but very many cases are also observed not having any known connection with rheumatism in any form. Fourth, that the cases of chorea in which cardiac murmurs are found, are for the most part preceded by rheumatism which has disabled the valves, but in many instances these have their origin only in an anæmic state of the system. Fifth, that certain children are strongly "mobile" in

certain nerve-centres, which are easily influenced by psychical causes, and in these children chorea is very often developed. Sixth, that excluding the small number of cases of chorea, which, from age, serious brain lesions or other unknown circumstances are either speedily fatal or resist all remedies, the rest will recover under treatment from the irregular muscular movements and heart symptoms generally, but in some few cases a valvular lesion is permanently injurious, both to the health and life, and the muscular movements persist. While the author admits that the disease may get well without any treatment, he has never felt justified in trying it. As chorea is chiefly and emphatically a disease of neglected and half-starved children, removed to a hospital under sanitary conditions, the child will at once improve. In the way of treatment the author strongly recommends the cold shower bath as supplementary to the internal administration of iron and arsenic.

Salol and Arsenite of Copper in the Treatment of Infantile Diarrhœa.

MENSI (*Rivista Gen. Italian Clin. Med.*, September 15, 1891,) has treated twenty-seven cases of diarrhœa in children with salol, always with the best results. He has not been successful, however, in nine other cases treated with the arsenite of copper. In the use of these medicaments he arrives at the following conclusions: (1) Salol is an efficacious remedy in the treatment of diarrhœa in children, whether acute or chronic. (2) Its administration is followed by an arrest of the intestinal flux, diminishing

tenesmus, colicky pains, rendering normal the excrementitious matters and producing a rapid amelioration of the general system. (3) The drug is well tolerated in daily doses of from 3 to 30 grains, according to the age of the patient and the gravity of the case—it does not produce gastric irritation nor any other untoward effects. (4) Arsenite of copper is of no immediate advantage in the treatment of infantile diarrhœa, and is, on the whole, inferior to other remedies.

Phimosis in Infancy ; Its Complications and Treatment.

SAINT-GERMAIN (*Gazette des Hôpitaux*, September 10, 1891,) considers phimosis to be of very frequent occurrence in children. Among the complications may be mentioned: accumulation of smegma, causing inflammation and suppuration, this in turn often leading to masturbation; retention of urine, both vesical and in the prepuce; and paraphimosis, often concealed by the children from their parents for several days, until the glans penis has become swollen and œdematous. Paraphimosis can usually be reduced without chloroform. This is especially desirable if the cause has been masturbation, as the pain has a future moral effect upon the patient. If reduction is not able to be done, resort must be had to surgical means. The Jews circumcise on the tenth day, and the Mahommedans when the boy is twelve to thirteen years old. The complications of circumcision are hæmorrhage, which may result from the bloody diathesis, and inflam-

matory changes. The author has seen several cases in which there followed diphtheria of the wound. Dilatation is much to be preferred to circumcision. Nelaton suggested this method, but used three prongs to his dilator. This gave rise to deep ulcerations, and was almost abandoned when the author suggested that only two prongs should be used. This dilatation should be made first vertically and then transversely. Care must be taken that the point of the dilator be not introduced into the meatus. The prepuce is then carried back, the gland anointed with vaseline, and the prepuce again brought forward. A week later the glans penis should be again uncovered. This method is applicable to all ages, and can readily be done without an anæsthetic. In one case in fifty or sixty, where there is a tight prepuce, an abrasion or hæmorrhage may occur. Here circumcision is advisable.

The Treatment of Malignant Measles by Cold Baths.

Revue Mensuelle Maladies de l'Enfance.

PROF. DIEULAFOY states, in a communication made to the *Société Médicale des Hôpitaux*, that he has used cold baths in the treatment of malignant measles with good results. One case—that of a young girl, 16 years of age, who was under his care—is of interest: On the seventh day of the disease it assumed an extremely malignant form, and a fatal

issue seemed imminent. The patient was placed into a cold bath (77°), where she was allowed to remain a quarter of an hour. Improvement took place at once, and recovery followed after a few baths. In several cases he claims to have certainly ward off a fatal issue. M. Juhel-Renoy has also obtained the same results in similar cases.

An Illustration of the Heredity of Hæmatophilia.

Prager Med. Wochenschrift, No. 40, 1891.

R. v. LIMBECH relates a case of a family in which the bloody diathesis has appeared in all of four successive generations. Forty members of the family have been studied, and a diagram shows that nine were markedly affected with hæmatophilia, five slightly, and that twenty-six had apparently escaped. The first case noted occurred in a woman, who had reached her sixtieth year before she showed any signs of this disorder. She bequeathed a predisposition to her youngest child, a girl, who mar-

ried when she was sixteen years old, and gave birth to sixteen children, nine of whom are living. Of the grown-up children three daughters are afflicted, and of their younger children several sons are hæmatophilic, the children of the last generation being still young. From the cases cited it would seem that there was a greater tendency for the daughters to inherit the disease than the sons, when one of the parents, and that one the mother, is afflicted.

Hereditary Syphilis of the Lungs.

Gazette des Hôpitaux, [January 9, 1892.

In an interesting article on syphilis of the lungs, the following statements are made by A. B. MARFAN, concerning this condition when occurring in the newborn. While the subject is chiefly of a pathological interest, the lesion being hardly capable of recognition clinically, the condition is of great interest, owing to the fact that we here find the initial stadium of the lesion, while in the adult the later, or terminal, stages are alone seen. The signs of a syphilitic child, so well described by Trousseau, born dead or living, are well known. The chief pathological symptoms of syphilis of the lungs, from a diagnostic point of view, are gummata and the alteration described by Virchow under the name of white pneumonia. Balzer and Grandhomme have, however, lately described certain conditions which they have often found and considered

as preceding the above lesions, these consisting in an intense congestion of the capillaries, with a corresponding stasis of the blood. Changes then take place in the vascular walls which tend to obliterate the calibre of the vessel. Under the microscope proliferation is seen and embryonal infiltration, with commencing sclerosis, the first stage of white pneumonia and the gumma. Complete sclerosis, as seen in the adult, is a very rare occurrence in the newborn. Pneumonia alba is at times diffused and at times limited in its extent. The parts are never crepitant, having a tendency to sink in water. They tear with difficulty, and the color is not always white, but may be gray, or even approach to a light salmon-color. The coloration is the more readily seen, as there are no traces of anthracosis. The microscope shows the

lesions of syphilitic arteritis, with thickening of the walls and a narrowing of the calibre of the vessel. The lesions resemble those seen in carnification of the lung—the perialveolar, the perilobular and the peribronchial walls being extremely thick. The alveoli are retracted and solely obliterated by this process, those remaining being filled with proliferated epi-

thelium. Gummata may be scattered throughout the diseased area, and present the usual characteristics, both microscopically and macroscopically. If the child lives and treatment is not resorted to, there is danger of pulmonary sclerosis, and dilation of the bronchi occurring as the age advances.

Injectons of Testicular Juice in the Treatment of Infantile Tuberculosis.

CH. FLEURY (*Bulletin Médical du Nord*) reports great success from the use of testicular juice, hypodermatically administered, in the treatment of tuberculosis of children. Four little patients were suffering from general tuberculosis, and their death seemed inevitable. Their ages varied from two to six years. The author, as a last resort practised the injections of the fluid and in from three to four days after, the most favorable changes occurred. The little patients had been having a continuous high bodily temperature. In three of them this was reduced by

the medicament from 1° to 2° C. In the fourth, in which there had been a condition of hypothermia, the temperature was elevated from 35° to 37.2° C. On the whole, the children were transformed into new beings. Nutrition, appetite, digestive powers, all were remarkably improved. The author further states, however, that the general amelioration was not permanent, and that the disease, in the end, terminated in the death of the patients.—*Le Bulletin Médical*, November 8, 1891.

BOOKS RECEIVED.

A PRACTICAL TREATISE ON THE DISEASES OF WOMEN. By T. Gaillard Thomas, M.D., LL.D. Sixth edition, enlarged and thoroughly revised by Paul F. Mundé, M.D. Containing 347 engravings on wood. Philadelphia: Lea Brothers & Co., 1891.

Dr. Mundé has so revised and remodelled Dr. Thomas' well-known work as to bring not only its general arrangement, but also the details of the individual subjects up to date, embodying the advances and improvements made since the publication of the last edition, ten years ago. Several new chapters have been added, such as those on "Electricity," "Hermaphroditism," "Diseases of the Urethra and Bladder," and the "Diseases of the Female Breast." Very many of the illustrations are new.

OBSTETRICS, SYLLABUS OF. By Richard C. Norris, A.M., M.D. Second edition. Philadelphia: W. B. Saunders, 1891.

This syllabus of the lectures delivered by Prof. Barton C. Hirst, in the University of Pennsylvania, has commanded a more than local demand, and in a short time exhausted one edition. The work reviews and anticipates the important conditions and emergencies that could develop to mother or child between conception and the second summer. To the student it is a safe guide; to the graduate a valuable reference for what is the latest accepted teaching in all that pertains to obstetrics. B. F. S.

SYPHILIS IN ANCIENT AND PRE-HISTORIC TIMES. By Dr. F. Buret.

Translated from the French, with Notes, by A. H. Ohmann-Dumesnil, M.D. In three volumes. Philadelphia: F. A. Davis, 1891.

To those desiring to become acquainted with the history of this disease, there is, perhaps, no work more worthy than this by Dr. Buret, which gives evidence of an enormous amount of research, extending from the fifteenth century to our epoch. The disease as it existed in pre-historic times, among the Chinese, Japanese, Egyptians, Assyrians, Hebrews, Hindoos, Greeks and Romans, and a concluding chapter on the rational treatment of syphilis in the nineteenth century, comprise the first volume, containing 226 pages. The book is interesting and instructive.

TRAITE PRATIQUE DE GYNÉCOLOGIE. Par le Dr. A. Auvard, Accoucheur des Hôpitaux de Paris. With 525 illustrations and 12 colored plates. Paris: Octave Doin, 1892.

ESSENTIALS OF MEDICAL ELECTRICITY. By D. D. Stewart, M.D., and E. S. Lawrence, M.D. With 65 illustrations. Philadelphia: W. B. Saunders, 1892.

ESSENTIALS OF MEDICAL PHYSICS. By F. J. Brockway, M.D. With 155 illustrations. Philadelphia: W. B. Saunders, 1892.

A B C OF THE SWEDISH SYSTEM OF EDUCATIONAL GYMNASTICS. A Practical Handbook for School Teachers and the Home. By Hartvig Nissen. With 77 illustrations. Philadelphia and London: F. A. Davis, 1891.

PÆDIATRIC THERAPEUTICS.

CHOREA.

In a very severe case of chorea with marked paresis of the left arm, and total loss of speech in a boy 7 years old, the hydrobromate of hyoscine was prescribed, and gave some relief, though not much. This was continued for two weeks. There being but little improvement, antipyrin was substituted in doses of two grains every four hours. Improvement began at once; and in about ten days the movements had ceased. The paresis and disability of speech remained, but after two weeks' use of the syrup of hypophosphites, the child had recovered completely.—*Wagh.*

Dr. Rex, in treating chorea, directs that rest in bed be imperative, for not less than two weeks; inquire into the cause and endeavor to remove it; the patient should have a lukewarm bath every morning; the diet should consist principally of milk; chloral to quiet the nervous irritability; the best remedy is arsenic, beginning with small doses of Fowler's solution, later giving the lactate or the phosphate of iron.—*Times and Register.*

ENLARGED GLANDS.

R. Ung. hydrarg.,
Ung. ichthyol.,
Lanolin, āā 3 ij.

M. Sig.—Use locally.—*University Hospital.*

MEMBRANOUS LARYNGITIS.

A teaspoonful of the wine of ipecacuanha or powdered alum, in drachm doses, mixed with syrup of honey, to produce vomiting. If the patient is seen early, half-drop doses of the tincture of aconite every fifteen minutes until four doses are taken. Bromide of ammonium in full doses will also be found useful, alternated with quinine, every three hours.

The following formula will be found reliable:

R Hydrarg, chlorid. mit., gr. ij.
Sodii bicarb., gr. xxiv.
Pulv. ipecac., gr. j.
Pulv. pepsine, gr. xxiv.

M. et ft. Chart No. xii.

Sig.—One powder every two hours.

Morrel Mackenzie recommends the following spray to dissolve false membrane:

R Acid lactic, 5 iiiss.
Aquæ destil., f 3x.

Sig.—Apply frequently with spray or mop.
—*Powell, Diseases of Children.*

Prof. N. S. Davis says all the indications for treatment, in croup, in the mild or superficial form of the disease, can be fulfilled by the administration of:

R. Syr. ipecac., 3 ix.
Syr. scillæ comp., 3 iss.
Tinct. opii camph., 3 ij.

M. Sig.—Half teaspoonful every three or four hours.—*Ind. Med. Jour.*

PERTUSSIS.

Lopes de Almeida has found the following combination of great use in the treatment of pertussis:

R. Vegetable creosote, gr. iii.-vij.
Sulphonal, gr. iii.-vi.
Syrup of tolu, f 3 iv.

A teaspoonful of this mixture should be given every two or three hours. No gastric trouble was noticed, notwithstanding the repugnance of the children against the odor of the creosote.—*Bullet. Gen. de Therapeutique*, October 23, 1891.

OTORRHEA.

For otorrhœa, or suppurative inflammation from the middle or external ear, the following:

R. Resorcin, grs. iij.
Lloyd's hydrastis. 3j.
Glycerin, 3 iij.
Aqua dest., q. s. ft. 3 iij.

M. Sig.—Wash the ear twice daily.

R. Peroxide of hydrogen, drop or apply in the ear three times daily after washing the ear out with:

R. Sodii bicarb., 3j.
Glycerin, 3 iij.
Aqua dest., q. s. ft. 3 iij.
Acid carbolic, grs. iv.

Then dry the ear before using the peroxide. This is applied two or three times daily. It is also well to wash out the ear with warm water.—*French, W. M. and S. R. p.*

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No. 6.

ORIGINAL COMMUNICATIONS.

The Significance of Uterine Displacements.¹

BY W. GILL WYLIE, M.D.,

Professor of Gynæcology in the New York Polyclinic.

CLINICAL LECTURE.

I WANT to talk to you this morning, gentlemen, about uterine displacements. My views about displacements have been for the last fifteen years so radically different from those of the majority of teachers of gynæcology in this city that I fear I can only give you a poor idea of that difference by a lecture.

In considering the question of displacements there are two or three points in anatomy which you must bear well in mind if you would understand my views. In the first place, you must recognize the fact that the abdominal cavity and the pelvic cavity are entirely distinct. For instance, the axes of the two cavities ought to be almost at right angle to each other. In the negro race they are at right

angle—that is, the central axis of the pelvis forms a right angle to a line dropped down through the abdominal cavity, so that when a force exerts itself directly downward in the abdominal cavity, it cannot strike in the pelvis. It must strike the anterior abdominal wall before reaching the uterus. In the white race the angle varies, being in some a right angle, in others more than a right angle—an obtuse angle. The explanation of this anatomical relation of the two cavities is found in the fact that nature wished to avoid the expenditure of the great degree of force coming down from the abdominal cavity through the action of the diaphragm and abdominal walls upon the cavity of the pelvis and its soft contents

¹ Delivered April 17, 1891, at New York Polyclinic.

Observe the influence of a woman coughing while lying on the examination-table, and you will realize what tremendous force is placed upon the organs of the pelvis, especially on the uterus, which by this act is pushed well down toward the pelvic floor. It will even show at the vulva if there be want of the perinæum. I claim that such a force as straining at stool is more effectual in displacing the uterus and in producing the results which have been attributed to displacement than any other. No fall could equal it.

Then you must recognize the fact that the uterus is a movable body, or was meant to be movable while suspended in the pelvis. Anything which displaces the broad ligaments backward will displace the uterus backward. But do not forget that the uterus is hung within a cavity where there ought to be a certain amount of normal pressure, which we will call intra-abdominal pressure. It is a soft organ, very flexible, and will readily bend one way or the other, backward or forward; but being surrounded by equal intra-abdominal pressure it remains suspended in a more or less upright position, rising as the pressure relaxes, descending somewhat as the pressure becomes greater, its motion being somewhat analogous to that of the rise and fall of the tide, but, of course, taking place much more frequently.

I think the whole question of displacements has been much overstated by most teachers. They have looked upon it as a disease, something in itself which should be overcome; something of greater importance in the treatment of uterine disease than any other condition.

If you look through Graily Hew-

itt's writings of about ten years ago, and Dr. Thomas' work, which is yet the chief text-book in this country, and is also used considerably in Europe, you will find most importance given from one end to the other to uterine displacements. You will find chapter after chapter treating of displacement as if it were a disease, and much space taken up with its treatment by pessaries. Indeed, one receives the impression that pessaries are the most important of all instruments.

Now, instead of looking upon displacements as a disease or as something which must be considered distinctly and separately, I look upon them merely as incidents, accompanying disease of the uterus. They may exist and give no trouble.

First, to take up anterior displacements, I will say that I do not regard them as abnormal. It is impossible for anterior displacements to be pathological in the strict sense of the word. I admit that if the uterus is enlarged so that its long axis is as great or nearly as great as the antero-posterior diameter of the pelvis, and falls forward so that its fundus becomes wedged under the symphysis, the cervix pressing back in the cul-de-sac, such an interior displacement would itself give rise to some trouble, and that by raising the uterus from its wedged position you would relieve some of the symptoms. But that is a rare condition. The uterus itself must be in an abnormal condition to be so enlarged, unless it be during pregnancy, and then it rarely falls into such a position. That, then, is the only condition in which anterior displacement could cause pain or be regarded as really pathological. All

this talk about anteversion or ante-flexion, excepting where the uterus becomes wedged under the pubic arch, is, in my opinion, utter nonsense; and treatment, whose sole object is the straightening of the uterus, is time wasted. They are simply cases of imperfect development of the uterus. Mere straightening out of the organ will have no effect. But the uterus which has become anteflexed is likely to be affected with a diseased condition of the lining membrane. Now, to introduce that which will straighten the organ is likely to cause a healthful change in the mucous membrane, and to that result I claim benefit is due rather than to holding the organ up by aid of a pessary. The stem-pessary which is introduced with the idea of straightening the uterus, produces benefit really by draining the cavity, acting as an irritant on the lining membrane and setting up development in a stunted organ. If sepsis did not arise, a stem might be of benefit in that way, stimulating an imperfectly developed organ, and, perhaps, overcoming a chronic endometritis.

As to this mode of treating anteversion, or the condition in which the uterus falls forward, due really to relaxation of all the tissues of the pelvis, it does not amount to much. I would state, without hesitation, that when a woman has a dragging sensation about the pelvis, and the uterus is displaced forward, nine-tenths of the pain and pressure are due to relaxation, prolapsus, and dragging, not only of the uterus, but of everything within the pelvis. Those who have opened the abdomen a great many times know that displacement of the uterus is often accompanied by fold upon fold of omentum which has lost

all tone and hangs loosely, resting upon the pelvic organs, constituting a network of bloodvessels and fat, crowding in every direction into the pelvis. That bearing-down weight is ten times, or at least four times, as great as that of the uterus itself. Then the intestines themselves often become relaxed from want of proper support by their mesenteries. We meet with women who have once been fat, the mesentery, omentum and pelvic tissues all padded with fat, the bloodvessels very large. After getting thin the abdomen becomes relaxed; the support of the fat is taken away, so that the bloodvessels lose tone, the intestines which were once padded up with fat now sag down, the pelvis becomes crowded with congested tissue, and the patient suffers from blood-pressure rather than from pressure of the uterus. Of course, if the uterus is diseased and hyperæsthetic, the pain may centre there. But the patient is more likely to suffer from pressure sensations down the legs, dragging sensations about the pelvis and backache, symptoms which arise in a great many cases more from the general dilatation and relaxation of the bloodvessels and dragging down of the contents of the pelvis than from uterine displacement.

I would say exactly the same with regard to retroversion. Speaking of retro-displacements in general, I may say that if they do not in themselves constitute disease or produce disease, they certainly do complicate existing disease seriously. If the uterus is retroverted so that the fundus lies backward in the pelvis, the woman is likely to suffer more than if the uterus were in the upright position. Now, do not infer from this remark that I

consider displacement a disease. It simply complicates disease. By such complication it causes pain, the pain being due less to the displacement backward than to two things which arise from the displacement. By reference to this diagram you will see that a force starting down from above will strike against the anterior wall of the abdomen, and from there be deflected backward into the pelvis. If the uterus be in the normal position it will here strike this organ on top where it can cause least pressure while the uterus itself can best offer resistance; but let the uterus be retroverted so that the force strikes it broadside, it will have to withstand many times more than when in the upright position, while it is at the same time in the worst position to offer resistance. Suppose that fæcal matter is coming down, to pass through the pelvis. If the uterus is in normal position it will pass behind it, then forward and out at the anus without any depressing effect. If, on the contrary, the uterus is retroverted so that it falls into the line which the fæcal matter has to take, it will be pushed now toward the vaginal outlet. That is especially true where there is a tear of the inner perinæum; where the levator ani is injured and the lower end of the rectum not properly sustained. In that condition the fæcal matter crowds the rectum forward into the vagina, pulls the cervix downward and forward, and throws the fundus backward. Then, when the uterus is completely retroverted, it tends to force that organ out of the body. But I claim it is not so much because the uterus lies backward that there are symptoms; it is rather because it is in bad position to resist force.

Another point: when the uterus is completely retroverted its mobility in many cases is destroyed. When it is suspended normally by its ligaments it is movable, and when force comes down from above it yields to it, so that it is injured to a far less extent than if it were fixed. Now, the minute the uterus becomes fixed, more harm results, I think, than can arise simply from the malposition. A rough comparison may be drawn by supposing your finger suspended above this table, when, on striking it with a hammer, little harm should be done; but lay it upon the table, strike it with the hammer, and there will be quite a different result. So it is with the uterus: according to whether it is suspended or fixed will the force coming down from the diaphragm meet with greater or less positive resistance and do more or less injury. Then, in nearly all cases in which there are pain and trouble on standing and walking, in connection with backward displacement of the uterus, there is nearly always also chronic uterine catarrh. The pressure itself, which causes most trouble is not that of the displaced uterus, but rather of the great amount of blood contained within the relaxed pelvic tissues.

Again, if the uterus is healthy and the perinæum is intact, it will make very little difference whether that uterus is retroverted or anteverted. There are thousands of women going about this city with a retroverted uterus who do not suffer at all. But let them have a miscarriage, or any trouble which may cause the uterus to become enlarged, sensitive, diseased, and their suffering will be increased by the displacement. But cure the disease, and even with the

displacement the patient will be comfortable. I could show you at least a dozen women who illustrate the fact that where the uterus is in anything like a normal state the presence of retroversion makes no difference. The old idea that to replace the uterus means to cure the ailment is a false one. Many of you, perhaps, will have to unlearn it in order to look at these cases in their proper light. Take an anteverted uterus, simply dilate, curette and drain, and repair any existing tears, thus placing the uterus in a somewhat normal condition, and you need have little fear about the displacement. If the woman suffers, it is because she has some other complication besides the displacement.

Now, a tear of the perinæum is, as I have explained, a very serious complication in cases of uterine displacement—not that the perinæum has anything to do with the direct support of the uterus, for it has not. The best proof that it has no direct influence in supporting the uterus is this: if you will bring me ten women with the perinæum torn completely through, so that there is no resistance to faecal matter coming down and slipping out of the anus, I will show you at least eight in whom there is practically no displacement, or, at least, no retroversion. That proves that the perinæum has nothing directly to do with supporting the uterus. When the woman strains at stool, the whole uterus, if suspended in its normal position, might be pressed down, the cervix almost reaching the perinæum; but being in the normal position the completely torn perinæum has no influence at all, one way or another, on the position of the

uterus. There might be a little general prolapsus, but no retroversion, no dragging down by the perinæum. The only portion of the perinæum which can be supposed to have any influence in sustaining the uterus are those fibres passing from the coccyx, around the anus, to the pubic bone and sides of the pelvis. They also enter into the formation of the sphincter ani. The angle of junction between the anus proper or outlet and the rectum is nearly a right angle, forming a kind of valve protection until the desire to empty the gut arises, when the sphincter muscles contract, raise the lower end of the rectum, and give a backward direction to the fæces toward the anal outlet. But, as I have said, bring me ten cases where that inner portion of the perinæum is defective, where the lower end of the rectum is not sustained, where the faecal matter, as it sweeps down the curve of the sacrum, bulges forward, pushing against the posterior wall of the vagina, forming a rectocele in the vagina, in nine the posterior wall of the vagina will be found to pull down on the cervix and direct it forward, casting the fundus backward, and causing considerable displacement. If the support of the lower part of rectum be badly torn or relaxed, in time the uterus will be drawn entirely out of the body.

Now, take a case like that, and you will do good by holding the uterus up. But you must recognize the fact that the main trouble is not due to displacement of the uterus, but rather to such a laceration of the perinæum that the lower end of the rectum is not sustained. That is why the old operation made on the perinæum failed to do much good. That is also

why the operation of Mr. Tait and many others, which takes into consideration only the lower portion of the perinæum—the more external portion of it—also fails to cure the rectocele proper. It does not sustain the lower part of the rectum. I claim that the tissues on either side of the rectocele must be drawn up, that the whole surface must be denuded, in order that the lower end of the rectum may be properly sustained and not allowed to bulge forward and pull the cervix through the vaginal connection downward and forward.

With regard to pessaries, as I have told you before, I never use a pessary for anteversion or any anterior displacement, because I think it useless, and because other modes of treatment will not only give relief, but will effect a cure. That is, in an ordinary case of anteversion, simply divulse, if necessary curette, apply carbolic acid, and drain, and you will do more good than by all the pessaries which might be at command. The patient, too, will be subjected to less danger than by the employment of a stem pessary. I admit that the hard rubber drain which I use is very much like a stem pessary, but when the patient wears it she is in bed, and everything is kept as nearly aseptic as possible, just as one would treat a wound. But he who puts a pessary or any kind of tube into the uterus, and allows the patient to go about freely, is exposing her to a great risk.

It is especially dangerous to use such pessaries as are capable of becoming septic. Take, for instance, the soft rubber pessary; the danger of employing this instrument because of its tendency to become foul has been made well known, yet doctors continue to use it. An illustrative case

was that of a patient whom I saw not more than two years ago. She had been under the care of an eminent gynecologist, developed an ovarian tumor; and her brother, who was a physician, wished me to perform an operation. She made a perfect recovery from the operation, and afterward became pregnant. She had always had, as far as was known, retroversion, and continued to have it after the operation, although I had intended to include the round ligament in the ligature. When she became pregnant the uterus dropped down and became wedged somewhat within the pelvis. To keep it up, an eminent gynecologist's assistant, a very bright young man, introduced a pessary shaped very nearly like Hodges'. She afterward came to me, saying that there was some irritation about the vagina. On introducing my finger I found a stinking mass which proved to be this soft rubber pessary with enough septic material on it to kill half a dozen women. No wound happening to be present, it had done no special harm; but suppose the woman had sustained a miscarriage while that instrument was in the vagina (she did miscarry a week later), the chances are four out of five that she would have developed puerperal fever or poisoning, and perhaps have lost her life. I sat down and wrote the doctor, saying that I had supposed all, or at least all who understood surgery, had given up the use of soft rubber pessaries years ago, and that I was surprised he had introduced an instrument of that kind and allowed the woman to go about, especially after it had formed the stinking mass which it had. Nothing but metal, hard rubber or celluloid is aseptically safe.

With regard to the value of pes-

saries, I would never use them except as supplementary to other treatment, just as one would give a man a crutch, after putting up an injured leg, to enable him to go about, not with the idea of effecting a cure or doing more than to help other modes of treatment. About the only pessary which I use is practically Smith's modification of Hodges'. It is made of hard rubber, and can be bent to suit the case. The conditions in which I use the pessary are these: if the patient has a displacement, and I wish the uterus sustained during a menstrual period, I may put in a hard rubber pessary—the hard rubber pessary is about the only kind which I use. To show how seldom I employ pessaries I may say that there is not one out of twenty patients in my private hospital at present who is wearing a pessary, and only three have worn one during the past year. Now and then I send a patient out, wearing one, but not often. Probably I do not use a pessary in one case of fifty which come under my observation. But in nearly all cases in which I employ general treatment to improve the circulation of the pelvis I do introduce what I call the boro-glyceride pledget. The patient is placed in Sims' position, the uterus is pushed up, and the pledget is introduced, one end resting under the cul-de-sac, the other forward toward the pubic bone. I claim that that is the best means for holding the uterus in nearly the normal position. Not only is the uterus held up, but the circulation in the pelvis is stimulated, the glands become more active, and the local trouble is improved. If there be any exudation present it is more or less absorbed. Take a case in which subin-

volution has existed since the last labor or abortion, leaving the uterus large and soft, I claim that the boro-glyceride treatment properly applied twice a week will accomplish more in reducing the size of the uterus and in improving the circulation of the pelvis, say within six weeks, than can be accomplished by iodine, hot water and rest. Moreover, the patient can go about all the time. But I do not stop at simply putting something into the vagina to hold the uterus up. After treating the case with the boro-glyceride pledget for five or six weeks, I examine the inside of the uterus. If there are indications of fungous growths, any spasmodic contraction or irritable condition of the internal os, I divulse, curette, scraping off the mucous membrane, not so as to destroy it, but taking away the more or less diseased tissue, then make an application, and put it in a drain consisting of a hard rubber plug with a slot on the side. But if there is disease of the tubes and ovaries, it is a very different matter.

Here is an illustration of how a patient would suffer when there was practically no displacement. Take a woman in whom the uterus is in the normally anterior position, but in whom the broad ligaments are thickened on account of diseased tubes and ovaries, she will suffer when she stands, not because there is displacement of the uterus, since there is none but because the uterus is fixed. Every time she breathes, every time the bowels move, every time the diaphragm contracts, downward pressure is exerted upon the pelvic contents, pressing upon the fixed uterus and diseased ovaries, causing pain. The symptoms are just as severe as if un-

der like circumstances the uterus were displaced, showing that it is not retroversion which causes trouble, but fixation. In fact, retroversion alone may exist, and if the womb does not become wedged under the sacrum so as to cause miscarriage the second or third month, she will carry a child to term just as if no displacement had existed. I have a case now in a woman who was treated for dysmenorrhœa and adhesion the result of peritonitis, and who also had retroversion of the uterus. After dilating the cervical canal, draining and carrying out the treatment which I have mentioned, she became pregnant and carried her child to term, although she had been married and childless seven years. I treated her afterward, saw that there was normal involution, and tried to prevent a recurrence of the retroversion, but did not succeed, yet she is as well as anybody in the city, and has had since then one or more children. There are many women going about with retroversion, and yet they do not suffer. I claim that in a great many cases in which trouble has been attributed to displacement, treatment being directed in accordance with that view, it was really due to other conditions. Where the uterus is healthy, displacement causes little inconvenience.

Then there are other conditions which will stimulate uterine disease and displacement; which will cause a congested condition within the pelvis and give rise to symptoms as if the patient had a displacement. Disease of the anus, of the rectum, and even of the colon, will cause pelvic congestion and give rise to pain in the back, dragging and bearing-down pains and other symptoms, which the patient

may attribute to the uterus, and which you may feel disposed to assign to a displacement. But examination will reveal a fissured anus, hæmorrhoids, or whatever may be the true cause of the patient's sufferings. There may be a semi-ulcerated or hyperæsthetic state of the mucous membrane of the rectum or a sensitiveness which will be revealed on pressing backward with the finger in the vagina. Or the patient may complain mostly of pain on the left side, say that at times she has diarrhœa, at times is constipated, feels melancholy. Give her a good dose of castor oil or a little podophyllin, watch the movements, and you will find that she passes small, round, hard balls, sometimes so light that they will float on water. The case is one of colitis, or semi-ulceration or real ulceration of the colon caused by chronic constipation. It is a very difficult condition to cure. It will give all the symptoms of a retroversion or disease of the uterus.

Again, you will have a patient complaining of a dragging sensation in the right side with every now and then a diarrhœa, who refers her trouble to the right ovary. Vaginal examination may reveal some uterine displacement to which you may attribute all her symptoms. But in spite of treatment directed to the uterus, you will find that the patient still complains. More careful study will reveal trouble with the appendix; perhaps a plain history can be elicited of perityphlitis.

Again, you will find cases in which the pain starts up in the side, runs downward, and is accompanied by a little, sometimes severe, irritation of the bladder. Examination may reveal uterine displacement, to which

you may attribute the symptoms until failure of treatment reveals your error. Then something may direct your attention to the urine, when you may find a little pus, or blood, or albumin. Examination may reveal a floating kidney, in which there is more or less strangulation of the ureter or obstruction to the flow of urine down to the bladder. The trouble, instead of being uterine, is renal.

I do not want you to get the impression that I do not recognize the fact that backward displacement of the uterus does complicate disease; but I know that there are men who, having received their education at least ten or fifteen years ago, have made much use of pessaries, yet, if they would speak freely their experience, would have to admit that they had done more harm with them than good.

If the same men would learn to make boro-glyceride pledgets, use them twice a week between menstrual periods, and do nothing else, I will guarantee that they would cure four cases where they now cure one by the use of ordinary pessaries and nothing else. The boro-glyceride pledget improves the circulation of the pelvis, and therefore does more good than any other form of pessary. I admit that it holds the uterus up; nor do I say that holding the uterus up does harm, but that is not all that it accomplishes.

A patient has been brought in who affords, doubtless, an illustration of my remarks. She is 39 years old, married for fourteen years, has had one child, thirteen years ago; has been sick four years, with great pain in the pelvis; the bowels do not move unless laxatives are taken;

menstruation irregular, painful; occasional vomiting, and a good deal of trouble with digestion.

Examination shows that the uterus is small, hard, displaced and fixed backward. Twenty years ago all her troubles would have been assigned to the displacement, but now we would not expect to cure her by simply replacing the womb. The history points plainly to some trouble in the rectum.

About fifteen years ago, when I began to be an unbeliever in the displacement treatment, I admit that I was in much doubt as to what to do. That is, I found that I could tear down the treatment by pessaries easily enough, but I did not know exactly what to substitute. I am not in that position to-day. I am just as clear on the proper way to treat uterine disease, in minor operations, as I think I will ever be. The first point is to make a complete diagnosis, taking into consideration not only the local condition, but also the general condition. Then, if the uterus is displaced, not only sustain it in the normal position, or nearly normal position, so that it will not be dragged down by the rectum or receive pressure in an abnormal way, but dilate or divulse it, and treat it inside if diseased; of course, making a distinction between cases complicated by salpingitis and those not so complicated. But if the patient has disease of the tubes and ovaries, the treatment is just as clearly indicated as if it were confined to the uterus. If she is confined to her bed, or is threatened with peritonitis, the only thing to do is to open the belly and remove the diseased tubes and ovaries. We cannot scrape, or drain, or treat in the

ordinary way disease of the Fallopian tubes. We cannot get at the seat of the disease except by laparotomy. But with regard to the uterus it is different; yet I venture to say that if you take up a text-book, which you may have bought, on the diseases of women, you will not find a single line on drainage of the uterus. How in the world one would expect, in the light of modern surgery, to treat a diseased and closed canal, except by drainage, is more than I can understand.

To sum up: if a patient comes to you, try, if possible, to make a complete diagnosis; differentiate the cases which are complicated by disease of the tubes and ovaries from those which are not; if there is no disease of the appendages, you will be justified in using clean instruments, clean hands, and having the vagina clean, in examining the uterus with a sound. If the touch of the sound causes bleeding or pain, or if

the uterus is enlarged, and remains enlarged after boro-glyceride treatment and improved pelvic circulation, then divulse, scrape, drain, and make a simple application. Never use anything which is really destructive of the mucous membrane, or which will leave a scar. Recollect that the uterus is filled with glands and follicles, which are deep-seated in its tissues, so that any escharotic, any caustic, any electric current, which may cause destruction of the mucous membrane, will leave a scar, and do more harm, in the course of time, than good. Although you may cure the acute symptoms by burning out the uterine cavity, yet the after-results from stopping up the mouths of the glands and follicles will do more harm than any possible good. But if you will treat the chronically diseased uterus as you would treat a sinus, and keep up drainage, you will get satisfactory results.

Concerning American Indian Womanhood.—An Ethnological Study.

BY WM. THORNTON PARKER, M.D. (MUNICH),

BEVERLY, MASS.,

Fellow of the Massachusetts Medical Society, and of the Boston Gynecological Society, late Acting Assistant Surgeon U. S. Army, formerly Surgeon in the U. S. Indian Service, etc.

DR. HENRY T. BYFORD, in a paper read before the Chicago Gynecological Society, February 20, 1885, quotes Professor Gross as asking, "Why did not the Almighty create, simultaneously with woman, a competent gynecologist to meet the in-

evitable evils?" Dr. Byford adds that "it seems indeed like a reproach upon Him, the crowning work of whose intelligence was the creation of woman, that she should be the most poorly prepared of all beings for the reproduction of her kind.

PLATE I.



INDIAN WOMAN IN NATIVE DRESS, WITH ORNAMENTS.



INDIAN MOTHER AND CHILD, WIFE OF AFRAID-OF-HAWKS.

Was it always thus, or was child-bearing originally a physiological phenomenon not beyond the power of a healthy woman to patiently endure?" It is the purpose of this paper to show that among the North American aborigines, childbirth *has been* a peculiarly easy function, seldom attended with inconvenience of any very great moment or of danger to health and life. Where we find Indian tribes only recently confined upon reservations, and where the wild or blanket Indians are in the majority, there we can, without doubt, most readily ascertain the habits of the aborigines. The past fifteen years have brought about very remarkable changes in the lives of our American Indians, and as matters stand at present we can hope for only a very little more time remaining for investigation in this interesting study.

Ethnology is defined by Webster as "the science which treats of the division of man into races, its origin and relations, and differences which characterize them." I think we may therefore consider these investigations concerning Indian womanhood an ethnological study more than an anthropological research. We cannot fail even in this superficial paper to observe how closely related is the human race. An experience covering some years of service on the frontier has convinced me that while the tribes of North American Indians differ as widely from one another as the tribes and nations of pale-faces are distinct from each other, yet there is a wonderful similarity observable in all. This is especially noticeable when we come to investigate the condition of infancy childhood and ma-

ternity. In such a research we can not fail to be impressed with a decided respect for our native Americans.

Nowhere on the face of the earth can we find aborigines to be compared with those of the North American continent. Much, indeed, of their history and tradition has passed away, and when we seek for records of the nations who occupied this great continent, comparatively little is to be found. There is, however, some material within reach to-day, but in a very few years almost every remaining vestige will have disappeared forever. That oblivion should be the destiny of such remarkable nations is a misfortune. We have a right to be proud of our aborigines. Those who know most of our native American or so-called Indians respect them most. Those who have lived longest with them like them the best. My experience has brought me in contact with many different Indian nations, both in peace and war. Among these the Ojibways are the most interesting for investigation. Dr. Hoffman, lately an acting assistant surgeon in the United States Army, in a recent article in the *University Magazine* concerning Shamanistic practices, states that "the area of country formerly occupied by the immense tribes consisting of the Algonquin linguistic stock, extends from Nova Scotia southward to the James River, and westward to Montana. To these divisions belong the tribes first met with by the French traders in Canada as early as 1634, by the Puritans in Massachusetts, and by Captain John Smith's band of colonists in Virginia. They are believed to be considerably in advance of the tribes

of other divisions; and one of the most interesting bodies from an ethnological point of view is the Chippewa or Ojibway tribe of the Lake Superior region."

A prominent and highly educated Indian, who probably knows as much concerning the practices and customs existing among Ojibways as any man living, and whom I have known very well while serving at White Earth reservation, writes me as follows: "Indian girls usually begin to menstruate from 14 to 16 years of age. The mother carefully watches her daughter as the age of puberty develops, and makes frequent inquiries as to any peculiar symptoms appearing, and advises her to keep good watch upon herself and to note the appearance of anything unusual. She is directed when the hour arrives of the function of menstruation, whether it be in the stormy hour of the day or in the coldest midnight, to immediately leave her home and the village, and retire to a little wigwam, which has been prepared for her in some lonely, unfrequented place about a quarter of a mile or more away from her home. This temporary shelter has been built as comfortably as possible, as here she is expected to spend many days and nights alone. Here she is not allowed to receive cooked food from the family. She has been provided with a small tea-kettle, spoon and tin dish for her own use. Under no consideration must she pass over any public highway. She is strictly forbidden to speak to any men or boys. During the period of menstruation she is considered *unclean*. During this lonely period of hours and days of isolation she is encouraged to fast for full five days. Many

eat nothing and drink only cold water. It is considered among these people that the longer they abstain from food the better, and during this period of fasting the more important dreams of their sleeping moments are to be remembered and, if possible, recorded."

Concerning the care of the pregnant woman he writes: "During this period she is required to take more out-of-door exercise. Her work is by no means diminished. She must cut wood, make rice, make sugar and carry wood on her back. My wife, when her first delivery took place, was tapping sugar trees all day. After going to bed a daughter was born at 2 o'clock in the morning. At 10 o'clock the same day she went out tapping trees again with her little babe on her back. Chief Manadowabe's wife, Rebecca by name, had been gathering rice away from home. She was then heavy with pregnancy. Starting on the way toward the village, returning with a sack of wild rice on her back, when about a half a mile from home, she felt the symptoms of delivery. Putting down the load near the road, she went a little farther* away among the bushes. Here, unattended, the mother gave birth to her child. She wrapped the new-born babe in her blanket, returned to her load, and, placing it on her back, started again for home. I and my wife were building a very large wigwam when Rebecca reached us. We saw her coming with a load—sack of rice and something under her arm. My wife went and met her and took the new-born babe, and all that day Rebecca was on her feet to help us finish the wigwam. I called Dr. Breck to come and see the new-born babe. 'Just born two hours ago,' I

PLATE II.



"CHIPETA," OURAY'S SQUAW.



APACHE WOMEN.

said. 'Rebecca was all alone, alone by herself,' said I. 'You don't say so!' says he. 'Yes, alone.' 'Wonderful!' he said. 'Rebecca did not stay long in bed—one or two weeks, like the pale-face women.'"

The same writer informs me that before the delivery the woman is given some medicine to insure safe delivery.

The husband is seldom, if ever, present unless in an emergency where no woman can be found to assist. Diseases peculiar to women are not common among Indian women, but there are many native medicines which are highly prized for the relief of such troubles. Usually these remedies are administered through the friendly advice of some experienced women. Not infrequently in more difficult cases aid is sought from the medicine man. There are, however, in every tribe some women of reputation as "treaters," who undertake the treatment of cases such as falling of the womb. In Indian women from 30 to 40 years of age these displacements sometimes are found. The clothes worn by women during menstruation, or when suffering from disease of genital organs, are burned. The Indian mother very frequently wears a broad band around the waist before the child is born, and also a belt known as the "squaw belt" during confinement. The cloth worn as a napkin after confinement is also carefully burned. The after-birth, called by the Indians "cunoc," together with the membranes and cord, are carried away some distance and burned. After the birth of the child the mother carefully washes it. The ligation and care of the cord, or rather the stump, receive the most careful attention from her.

It is carefully anointed with an oil made antiseptic (?) by the use of herbs gathered by the Indians for that purpose. After the stump has fallen off the parts are washed and again anointed. Umbilical hernia among Indians is very rare. I have never seen a case; neither can I find any report of such an accident in the experience of other physicians.

Dr. A. I. Comfort, acting assistant surgeon, United States Army, whose experience with Indian tribes covers a period of not less than a quarter of a century, and whose contributions on aboriginal archæological Indian mounds to the Smithsonian Institution, as well as his valuable contributions to the Army Medical Museum on Indian crania and skeletons, have given him such a wide reputation as an investigator, writes me as follows:

"Among the Dakotas, Algonquins, Navajos, etc., the age of Indian girls at the appearance of menstruation is from 12 to 14, though it is modified by climate, tribal habits and other causes. White girls at frontier posts on the prairies menstruate at an early age. Diseases peculiar to the sex are, according to my observation, uncommon among Indian women—or, at least, they are not expected to, and do not, complain. I once saw an Indian mother of but 12 years of age.

"The occurrence of parturition rarely takes place after 30, and I have no recollection of any case over 35 years of age.

"The mortality of parturient women among the Indian tribes is, according to my observation, less than among white women, though I have observed no difference between them and half-breed women subject to the same

tribal influences. I do not recollect having seen more than six children in one family of Indians, and the number rarely exceeds four, though where a plurality of wives exists each wife may have four, rarely more. The Indian warrior finds the exigencies of the chase a meagre support for a large family; and the Indian women become very expert abortionists, though they sometimes push their remedies too far, and terminate their lives by their rashness.

"Post-partum hæmorrhage is, according to my observation, rare.

"There is no systematic position assumed by Indian women during labor; they stand or walk, sit or kneel, though in the second or third stage they prefer a dorsal decubitus."

A fair description of parturition among Indian women may be found in Clark and Lewis' Travels, who describe the pregnant Indian women as falling into labor while on the journey, leading the pony attached to the travois. As the pains become unbearable she transfers her charge to her husband, runs to the river, gives birth to her child, washes it, swathes it in swaddling clothes, and runs and joins her husband, who has not halted in his journey.

In Bancroft's History of the United States, Vol. II, pp. 420, you will find the following quotation: "In one quarter of an hour an Indian woman would be merry in the house, delivered, and be merry again; within two days abroad, and after four or five days at work."

Dr. Carlos Montezuma, agency physician at the Western Shoshone Agency, Nebraska, writes me that the Piutes and Shoshone girls menstruate at the average age of 13 years.

Some years ago while attending physician at the Indian Industrial School in North Dakota, he found the average at menstruation among the Gros-Ventres and Arecharees and Mandans as high as 15 years, while among the Apaches of Arizona he estimates the average at 12 years. In his experience he finds that Indian girls menstruate about one year earlier than white girls. Concerning uterine diseases, displacements, etc., he reports that in his experience these disorders are more frequent than is generally understood. Owing to timidity on the part of the women, digital examinations are not allowed, and for this reason fewer gynecological cases are reported. The youngest mother he ever attended was 15 years of age, and the oldest 45.

"The mortality among the Indian women during childbirth is less than among their white sisters, which is due to more perfect development of their reproductive apparatus." The largest family of Indian children, he reports in his experience, is eight. Post-partum hæmorrhage he reports as uncommon. The position at confinement is that of squatting or kneeling, in the majority of instances in the tribes among whom he has been stationed.

Dr. Montezuma states that the Indian women tie the cord twice—the first knot about four inches from the navel, the second two inches—the point of severance between the two knots being close to the one first tied.

Dr. George W. Era, a surgeon in the Indian Service at Santee Agency, Nebraska, writes that his experience places the average age at menstruation in Indian girls at 14 years. He does not find diseases of women com-

mon among the full-blood Indian women. He attended one Indian woman in confinement as young as 14, and another as old as 47. He finds the mortality among full-blood Indian women very much less than among half-breed or white women. The largest number of children in any one family in his experience has been sixteen. Post-partum hæmorrhage he has found a "very rare" complication.

With regard to the most common position at delivery he has observed that the kneeling position is preferred by most Indian women; they are taught to kneel, bending forward over a chair or some other firm support. The services of "pale-face doctors" are seldom called for in normal labor, but "in cases of complications or difficulty, when called, they always under my directions readily assume either the left lateral or dorsal." They are ready to accept his instructions as to the advantages (?) of these positions over their own customs.

Dr. C. A. Wray, who has spent several years among the Yankton and Crow Creek Indians, and who is at present surgeon at Yankton Indian Agency, writes that the average age of Indian girls at the appearance of menstruation is 16 years. He finds that diseases peculiar to women are very infrequent among the Indians. He has attended one Indian mother at the early age of 15 years, and the oldest parturient is one of 48 years of age. He concludes that the mortality of Indian women at childbirth is much less than that of half-breed or white women, but post-partum hæmorrhage he finds of not uncommon occurrence. He reports one Indian mother who

had given birth to nineteen children.

Dr. A. E. Marden, surgeon in the United States Indian service at the Mescalero Apache reservation, New Mexico, writes that the average age of Indian girls at the appearance of menstruation is 13 years. He finds diseases of women very infrequent among Indian women. The age of the youngest Indian mother has been 14, and that of the oldest 44. The mortality among Indian women is found markedly less than that among half-breeds. Post-partum hæmorrhage he reports of uncommon occurrence. The largest number of children in any one family in his experience has been six. The position he finds most common in delivery is that of squatting on the hips.

"Lusk's 'Science of Midwifery,' page 208, says, in referring to Hohl's method as recommended by Olshausen: 'The patient should at the same time be directed not to hold her breath during the pains, *except when they are weak and powerless.*' We would naturally infer from this that holding the breath would increase the expulsive efforts. While Government physician at the White Earth reservation, Minnesota, I had several opportunities to notice the management of labor among the Chippewa Indians, although the 'pale-face doctor' is rarely called to attend such cases any more than the Indian 'Mus-kee-kee-winnie' (medicine man). Hohl's method reminds me of a practice which I have often witnessed of the attendant Indian midwife placing the hand almost violently on the mouth of the patient during 'the pains' whenever they seem to be

'good,' and omitting to do so when they were weak and powerless."¹

With regard to the posture of Indian women in labor, I have found it to vary in almost every instance. In Dr. Engelmann's work on Labor among Primitive Peoples, he states that amongst United States Indians the positions assumed in labor are mostly kneeling, clinging to a tent-pole, the body inclined forward, or to a rope or horizontal staff, body inclined backwards, often squatting; occasionally sitting, semi-recumbent in the lap or on the floor; semi-recumbent or kneeling erect; more rarely recumbent; standing erect, clinging to the neck of an assistant; tied to a tree or suspended, or in the knee-chest position. Concerning the position assumed in labor among the Chippewa Indians, Dr. Engelmann states that "if the parturient is of the wild or blanket Indians, a quantity of dry grass is spread on the ground of the te-pee or house if they have any. A pole, six to ten feet long and three to four inches in diameter, is placed on the backs of chairs or fixed across one corner of the room about the height of a chair, behind which, with it across her chest, the woman rests on her knees during the pains, sitting down in the interval. Those who are partly civilized assume a somewhat similar position, but use straw overlaid by quilts and blankets."

Dr. Engelmann also states that the Chippewa seems to draw horizontally from the cross-bar, and not to rest herself or raise herself as do those Indians who support themselves by staff or pole. This statement, al-

though in the main correct, gives a wrong idea of the mechanism. The parturient Chippewa *rests* upon the pole, and only incidentally draws upon it, and for this very reason the pole is carefully wound with many thicknesses of cloth. Blankets are spread upon the floor upon which, in the intervals, she rests. This is a customary position for these people in labor, and such poles are carefully cut and prepared for this purpose and are retained as one of the household implements, and are loaned from family to family as required. I have found great difficulty in obtaining information concerning midwifery among the Chippewas. The Indians send for the Government physician only in rare cases, and they object to any kind of operative interference except under the most urgent necessity. The midwives are exceedingly reticent and jealous of what knowledge they possess, but they show very keen interest in the pale-face doctors' methods of procedure in labor, and are very intelligent critics. I remember explaining to one Carl Braun's method of lateral incisions as in cases of impending rupture of the perinæum. To my surprise she seemed to think it might be a very good idea. She expressed great delight with my blunt, pointed bistoury, and seemed to comprehend how many hundreds of miles I had brought it over the "Big Sea Water."

Rupture of the perinæum seems to be a rare occurrence among the full-blood Indians, but among the half-breed women I understand it is becoming quite common. The Chippewas have no reasonable treatment for post-partum hæmorrhage. They attempt little to save the patient.

¹ From a paper by the writer in the New York Medical Journal, May, 1882.

Upon my questioning my attendant, who had been in charge of a young woman who had bled to death after labor, she informed me that if the primitive methods they had used could not save her, she supposed nothing could be done. I mentioned this case to the head chief, a very intelligent man, and he expressed his regret that I had not been called in time to save the life of the young woman. At a council of the Indians held shortly afterward he urgently advised them to send for the pale-face doctor in cases of emergency. He acknowledged that our art was superior to their own old-fashioned ways. He recognized the fact that the Indians were dying off too fast, and that it was well worth while to do everything possible to save life.

"Commonly labor is conducted most privately and quietly; the Indian squaw is wont to steal off into the woods for her confinement. Alone or accompanied by a female relative or friend she leaves the village, as she feels the approach of labor, to seek some retired spot; upon the bank of a stream is the favorite place the world over, the vicinity of water, moving water if possible, is sought, so that the young mother can bathe herself and her child, and return to the village cleansed and purified when all is over. This is true of the Sioux, the Comanches, the Sonkawas, the Nez-Percés, the Apaches, the Cheyennes and other of our Indian tribes.

"The Chippewas, as well as the Winnebagos, also follow this custom. The natives of the Caucasus, the Dombars and other tribes of Southern India, those of Ceram, the inhabitants of Loango, of Old Calabar, and many of the African races, are deliv-

ered in this quiet way; and the women are not only kept apart from their husbands and the villagers during their confinement, but for weeks afterward. The reason why we know so little of Indian labor is the great secrecy which they observe regarding such matters, and their extreme reluctance to speak to inquisitive whites of these subjects which are to them enshrouded in a veil of superstition and mystery. Some of the Sioux tribes, the Blackfeet and the Uncapapas, are in the habit of arranging a separate lodge, generally a temporary one, for the occasion, as also do the Klamaths, the Utes and others."

As soon as the Indian baby is born it is placed in a coffin-shaped receptacle, where it passes nearly the whole of the first year of its existence, being taken out only once or twice a day for washing or change of clothing. This clothing is of the most primitive character, the baby being simply swaddled in a dressed deer-skin or piece of thick cotton cloth, which envelops the whole body below the neck. The outside of the cradle varies with the wealth or taste of the mother, scarcely two being exactly alike. Some are elaborately ornamented with furs, feathers and bead-work, others are perfectly plain. Whatever the outside, the cases themselves are nearly the same. A piece of dried buffalo hide is cut into proper shape, then turned on itself, and the front fastened to a board, or in the most approved cradles, to two narrow pieces of board joined in the form of an X.

It forms a real "nest of comfort," and as the Indians are not "sticklers" on the score of cleanliness, it is the very best cradle that they could adopt.

To the board or boards is attached a strap, which, passed over the head, rests on the mother's chest and shoulders, leaving the arms free. When about the lodge the mother stands the cradle in some out-of-the-way corner, or in fine weather against a tree; or if the wind is blowing fresh it is hung to a branch, where it fulfils all the promise of the nursery rhyme. When the baby is ten months to a year old it is released from its confinement, and for a year or two more of its life takes its short journeys on its mother's back in a simple way. It is placed well up on her back between the shoulders; the blanket is then thrown over both, and being drawn tightly at the front of her neck by the mother, leaves a fold behind in which the little one rides securely and apparently without the slightest inconvenience to either rider or ridden. I have seen a Nez Percé woman play a vigorous game of ball with a baby on her back.¹

The stature of the Indian woman is usually short; a well-built, sturdy frame, capable of incessant toil and able to endure great fatigue. The shoulders are broad, the arms long, and the hips large, suggesting a capacious pelvis. The whole bearing is one of fortitude, perseverance and unflagging devotion to womanly duty. When we consider how severe is their life, how uninterrupted their toil, we are amazed that their womanly functions do not break down under the strain of maternity and child-nursing. Diseases peculiar to women are rare among them. "Their theory of dis-

ease is that it all resides in the blood; to prove this they always recite the fact that the blood always collects underneath a bruise and makes it dark; also the fact that drawn blood coagulates, hence their favorite remedy was scarification with small flints" (Dr. Powell, "Contributions to N. A. Ethnology," Vol. III).

The use of inunction with oil by Indian midwives is quite common. A drink made from a root steeped in hot water to encourage easy and quick delivery is in use amongst the Ojibways.

The "squaw belt" is a broad bandage of buckskin or of some firm material, more or less ornamented. These belts or bandages are made use of just before, during, and after delivery. Dr. Engelmann states that "among many people there is a certain time of rest and isolation, which is governed more particularly by their religious belief of their uncleanness. The puerpera is said to be unclean during the time succeeding delivery as she is during menstruation."

Dr. Fields states concerning the treatment of the puerperal state that "it is not alike in all the tribes. Some require the woman to keep on her feet the greater part of the day, taking short walks around the camp, and resting only when she becomes very weary; for a period of three or four days the woman continues these walks, with an occasional hour in a reclining posture to rest her feet; then she is considered well. The object of this is to facilitate the flow of the lochia; they think that should the woman lie in bed the blood would accumulate in the abdominal cavity, and she must die." Among many of

¹The above is taken from "Our Wild Indians," written by Colonel Richard I. Dodge, United States Army, and is a truthful description.

the Indian tribes both mother and child receive a cold water bath; invariably the child is bathed immediately after delivery and then secured in its pappoose holder.

That the robust condition and easy mode of child-bearing are rapidly disappearing from even the full-blood Indian women there can be no doubt. The bed has taken the place of the blanket or the pallet of straw, and the "puerperal state" that of the ready condition for renewed toil immediately after childbirth. The daughters and granddaughters of these sturdy aboriginal matrons consult the pale-face doctor, and are rapidly acquiring the methods of pale-face women. We can do little to prevent this evolution. One great stumbling-block toward success in this direction is the present physical condition of the Indians. From an out-of-door life of activity with plenty of fresh game and wholesome food and clear water, with a healthful te-pee for home, the change has been made to log cabins with overheated, close air. Poor food, with flour and salted meat of inferior quality, is mostly what is found in the modern Indian home. In exchange for an active life there is much of idleness and indoor confinement. Instead of being taught how to cook good, wholesome food, and to make the home healthy, happy and attractive, embroidery, poetry, music, sentimental and religious readings are given too much place. These efforts often made in so-called Indian education are certainly ill-advised. Partly on this account the naturally robust constitution is deteriorating, and miscarriages and diseases peculiar to women are noticeably increasing, to the surprise and disgust of

the Indian mothers and grandmothers. The changes made are too sudden and too radical—certainly they are not rational—and the inevitable result is just what might be expected—very general failure.

We find just such errors in the education of the colored people. Instead of teaching them first to learn an honest living, as our fathers did, by toil and physical labor, these misguided philanthropists wish to make "exhibition pupils" of them. If hygiene and manual labor could be looked after more carefully, then might follow the cultivation of the arts. It seems neither right nor wise to begin with embroidery and music in the education of an Indian girl, when kitchen and housework is so often totally neglected. The Indian, like the white man, should work his way up from the lower round of the ladder; and unless this be the method, disaster is certain to follow.

In every department new factors have been introduced. The whole system is abnormal and altogether opposed to the best interests of the betterment of the Indian people.

Under these circumstances, is it at all to be wondered at that, mentally and physically, so many of our Indians are degenerating? For the Indian, as well as for any one else, idleness can act only as a serious injury. To be sure, it is very difficult to find suitable teachers imbued alike with a sincere interest for their welfare and at the same time possessing ordinary common sense. Whether it be wise to stuff the Indian head with book learning and prolific religious teaching at the expense of his bodily health is a question which many good people seem to differ upon very de-

cidedly. The good people in charge of Indian training can hardly be accused of insincerity or of intentional neglect of the physical vigor of the Indian children; but it is beyond a peradventure that a visit to any of our Indian schools will convince one that the wholesale ignoring of the laws of nature must end only in physical injury, if not in general impairment of the bodies of the children, for whose benefit the Government is spending its millions.

The Cheyennes and Arrapahoes have a curious custom which also obtains, though to a limited extent, among other of the Plains tribes. No unmarried woman considers herself dressed to meet her lover at night, to go to a dance or other gathering, unless she has tied her lower limbs with a rope, in such a way, however, as not to interfere with her powers of locomotion; and every married woman does the same before going to bed when her husband is absent. Custom has made this an almost perfect protection against the brutality of the men. Without it she would not be safe an instant; and even with it an unmarried girl is not safe if found alone away from the immediate protection of her lodge. A Cheyenne woman, either married or single, is never seen alone. Though any man has the right to assault her, she is required to protect herself, and this can only be done by always having some one with her. The sale of a wife is not unusual, though becoming less so every year. The Indians are very fond of children and anxious to have as many as possible. Should the wife not bear a child in a reasonable time she is liable to be sold.¹

¹ Colonel Dodge in "Our Wild Indians."

My experience with the Indians has been that except in the vicinity of military garrisons very little of acute venereal disease is to be found. For six months the hospital returns showed no cases of venereal disease treated at White Earth reservation. The record was broken at the end of that time by the return of a half-breed from the settlement with a case of acute gonorrhœa. The native Indian women are virtuous and faithful to their lovers and husbands. Adultery is severely punished and is commonly condemned. Bastardy is a crime even among Indians, and the reproach is an everlasting disgrace. It is safe to say that the standard of virtue is as high among the Chippewas as among their pale-face sisters. "The green-eyed monster is to be found in te-pee as well as in palace."

Colonel Dodge has translated a Cheyenne woman's song, which gives some insight into Indian ethnology:

"I will leave my husband, hah, ha, ha, ha,
 ha, yo, O!
 But attend to what I say to you, ha, ha,
 ha, ha, yo!
 You must be good to me, ha, ha, yo, e!
 And not make love to other women, ha, yo,
 ha, O!"

To discard an old disagreeable wife for a young and agreeable companion is not uncommon even among *good* Indians.

To investigate the habits and customs of our native North Americans is to demonstrate how closely allied are the nations of the earth. We are forced to concede that these people we regard as savages possess knowledge at least on matters of hygiene, if not in medical art, quite worthy of attention. We can find suggestions which may be useful in

our professional work among more cultivated individuals. The Indian woman in her humble sphere inspires even in savage hearts the respect for womanhood and motherhood which was once so prominently a type of the honor and manhood of the ancient Romans, and which is the natural characteristic of Anglo-Saxons. The source from which our aborigines derived their knowledge—it certainly seems more than mere instinct—must remain an unsolved riddle. We have shown enough to suggest the remarkable similarity in Indian customs to those of the ancient laws of the

Israelites. Possibly the theory that our Indians are remnants of "*the lost tribe*" may be a reasonable one. The reverence universally exhibited among Indians at the mention of the name of the Great Spirit—the bowed head and the open extended palms of the hands—is certainly very suggestive—when we add to this the laws governing uncleanness we are forced to wonder at the coincidence.

Whether so or not, we certainly can discover in our aborigines traits that are worthy of our esteem, and characteristics worthy of our sincere regard.

Abdominal Drainage.

BY DR. JOSEPH PRICE,
THE PRESTON RETREAT, PHILADELPHIA.

SINCE the introduction of drainage by Peaslee in 1855 it has passed without the limits to which he confined it—that of the treatment of septic peritonitis after ovariectomy—and has been carefully and scrupulously practised by surgeons of both our own country and Europe.

Sir Spencer Wells says: "In my own work I have from the first looked upon drainage as a practice to be *avoided if possible*, and have only put in a tube when I knew I had not been able to cleanse the peritonæum thoroughly, or thought that some oozing was likely to go on after the incision was closed, or when, some days later, I had reason to *suspect the presence of fluid in the cavity*. But I soon

began to think the tube acted as an irritant and led to the formation of the fluid which it served to remove.

"At first, when I was in doubt, I put in a tube; but very soon, when in doubt, I left it alone. More than once I was sorry I had not used it, but much oftener I was glad."

These statements of Sir Spencer Wells rather confuse than enlighten. Now I do and now I don't. Now I am glad and now I am sorry. Now I wish I had, now I am sorry I did. There is in all this something of the child game of hide-and-seek: "Now you are warm and now you are cold." We find the same scepticism and uncertainty in the following: "I can now add that I have only twice *flushed*

or *washed* out the *peritoneal cavity* with *warm water*; and in both cases regretted having done so." But let us take his statistics in the Samaritan Hospital as he gives them, "without drainage or washing out the peritoneal cavity with warm water," and contrast these statistics with those of his successors in the same institution. Of his own 1,378 cases of ovariectomy the mortality was 14.13 per cent., and he adds: "I am well aware that two of my successors at the Samaritan Hospital *drain* much oftener than I ever did, and often *flush*, and they regard both practices as valuable additions to ovariectomy." In four years they had 239 cases with a mortality of 4-40, less than 5 in 100. The same implied doubts as to the wisdom of drainage and flushing characterizes Mr. Wells' summing-up of his experience: "I think I have learned." We claim for the surgery of the period some certainties. There must be some things that we know or should know. We take the side on which lie the weighty facts. In our surgery we prefer a mortality of less than 5 per cent. to that of a little over 14. We will at any time willingly change our practice to diminish our mortality. We have a brother's genuine pride in the victories of Spencer Wells' surgery. We value the classic gems he has contributed to the literature of the profession; but if there is anything in the logic of facts, then his successors in the Samaritan Hospital are entitled to that merit of success with which their practice of *drainage* and *flushing* crowns them. They have the facts on their side.

He only put in a tube when he had not been able to cleanse the peri-

tonæum. It was not adopted as a precaution against very probable, if not certain, trouble, but as a *necessity* to correct evil and avoid its consequences—to avoid the results of the "oozing likely to go on after the incision was closed," and to meet the dread contingency of the presence of fluid in the pelvis. It is to provide against all these contingencies and results that we drain and flush. These agencies combined with the strict aseptic precaution of cleanliness, we claim, give the best results—give, as shown by the statistics of the most successful operators, the lowest percentage of mortality. As to irritation of tubes—with clean tube well placed and properly cared for, none can follow. Whether due to suppurating cystoma, dermoids, appendicitis or tubes, peritonitis is always a trenchant argument for section, irrigation and drainage. Perfect cleanliness and drainage are the factors of the whole procedure.

What our English brothers say about this subject is of great interest and value to us all. They have represented the best genius of practical surgery—have been on the skirmish-line of all its advances. But we must beg to take exception to some of their teaching. Keith says: "Drainage is not necessary in ordinary operations, or even in *moderately difficult* ones, even though the amount of *adhesions* be *great*. It is to be used only in the *very bad* operations, where adhesions have been *extensive*, or where there has been *much bleeding* and where there is a *doubt* that this has not all been arrested at the time of closing." We confess we do not fully comprehend the meaning and application of the expression, "where

there is a doubt." We can appreciate that charity of the law which gives to the accused the "benefit of the doubt;" but we do not know of any conditions and place in our surgery where doubt should enter in or have a controlling influence. From the beginning to the end we would give the patient the benefit of all doubts by not practising any. In the application of our doubt where are we to draw the line of distinction between the "*moderately difficult*" and the "*very bad operations*?"

Drainage provides against those complications where doubt would come in. The tube is something better than a mere last resort. We recognize the fact of certain conditions, the possibility of others, and drain for their correction, for safety, not trusting to the hazardous suggestions of doubt. Doubt involves hesitancy and delay; they mean prolonged suffering and death to the patient. Mr. Keith further says: "Above all, if the powers of life be feeble and the operation has to be finished quickly, before all oozing can be satisfactorily checked, *drainage* is often the *saving of the patient*." Of his own cases he says: "I think the *second fatal* case might have been saved had a drainage tube been used. There was an enormous amount of posterior adhesion, the adherent surface on the tumor representing a space of 30 by 31 inches, but the most of the adherent parts were long enough to allow of catgut ligatures being applied. There were at least seventy of these left inside, and the patient showed signs of feebleness before being put to bed. *I regretted much that I did not drain at the beginning*, for I removed from the pelvis

four days after the operation about six ounces of thin, dark blood. Nothing has *surprised* me so much as the amount of almost pure blood that was removed from the pelvis in several of the cases of hysterectomy that were drained. Where it came from in some of them remains a *mystery* to me." The drainage tube is an excellent safeguard against these "surprises"—these "mysteries" which are constantly confronting the abdominal surgeon. It is the contradictions between experience and teaching that surprise us.

The patient recovers, and it is credited to the fact that drainage was not used; she dies, and it is regretted that drainage was not used, thereby crediting the possibility of recovery to drainage. The saving element, it is admitted, has been left out of the case. But this problem, like many others in our surgery, is one of slow solution. We will only get out of these confusions of practice and teaching when we have reached some rule impressed into general practice by the stern logic of many costly experiences. The post-mortem is rather an ungracious, disagreeable teacher, but deals more in truth than rhetoric.

We note in a published statement of hospital work of an American institution a report of 52 sections; 48 were drained, 4 deaths. The author elaborates upon chemical libations, and follows with the statement: "I have always drained as I drained in this series, that is about 90 per cent. I confess that I intend to drain less. What made me drain so frequently was because I had *two* or *three* hæmorrhages, and *two* or *three* *lives* were saved by the tube. In one case, in double ovariectomy with a fleshy

pedicle, there was severe hæmorrhage, which nearly cost the patient her life. The *drainage-tube told me*, and I opened the abdomen and washed it out, and the patient recovered. There were other cases in which the blood came freely from the tube, and I *felt that life had been saved by the tube*. Having three such cases close together it seemed to me that tying the ligature was not a fine art within my hands and that it was better to drain. In the later cases there has been only one hæmorrhage, and I feel that the hæmorrhage undoubtedly had much to do with one of the deaths. In *any case* where there is the least *suspicion* in regard to the satisfactory character of the ligature, it would be *better to drain*." Here we have the happy *substitution* of "*suspicion*" for doubt; we have a modest American emulating our English brothers in confusing matters as to drainage. After crediting about all the life-saving he has done to drainage he says: "I confess that I intend to do less." Just what he will then have to "tell him" of trouble he does not inform us. It has not been five years since this same American denied the existence of the angry pelvic troubles for which he now attempts to operate. But the following will be very refreshing to the average surgeon, coming as it does from one with a mortality of 9 per cent.: "To

go back to drainage. There is one reason why those gynæcologists who are opposed to chemical solutions drain more—that is, because they need to. They are not as aseptic as others. They put more infection into the abdominal cavity, and it is necessary that they should provide for the results of such infection. If they did not drain they would have serious results. This fact explains why their simple cases do worse without drainage than their bad cases with it. I believe that what comes out of the tube is clean water in nine out of ten cases. It is the fluid which has been used in irrigation and which has not been sponged away. In the majority of cases I have not taken more than one drachm out at a time. The reason of this is, I believe, because *I sponge out the cavity*." This careful *sponging out of the cavity*, we presume, accounts for the 9 per cent. mortality. In the light of such utterances, to have good results, to save life—"sponge."

A good number of successful operators have lasting confidence in irrigation and drainage; they know well what they can do by what they have done. Uncertain utterances will not shake their faith; they will continue to operate and drain with a mortality below five per cent. And this they will do without chemical solution.

Abdominal Drainage.

BY MORDECAI PRICE, M.D.,
PHILADELPHIA, PA.

To drainage more than any one thing may be given the credit of the marvellous improvement in the statistics of abdominal surgery. There are few questions claiming our attention and consideration at the present time of such great moment; there is not an operator in the country that does not ask himself this question at every difficult operation: "In what way can I best protect my patient from hæmorrhage, peritonitis and chemical changes that must take place if there is any dirt or debris left after operation? how can I best remove this greatest of all dangers?" Only by the glass tubes such as I have shown you. There is no substitute, nothing else that will remove the dangerous elements of disease without adding one single feather's weight to the already dangerous condition of the patient. It is with drainage, as it is with every other surgical procedure: men attempt to lay down some dictum or arbitrary rule, without first having the experience or training which will enable them to determine definitely from the results of experience the value of any proposed innovation or change of long-accepted methods. While I would not make claim to conservatism in our surgical methods, we should hold to the practice of that which in the past has been proved in the hands of the men who have to their credit the greatest number of

abdominal sections for the most aggravated and complicated conditions, with a mortality far below that of those who either decry drainage, or who have not yet settled definitely in their own minds just when to drain.

One of the peculiar features of the medical writers of the day is to propose something new, or some modification of an established procedure, without themselves first having had that experience in surgical work which would entitle their ventures to confidence. They are without that best support, the strong logic of results. To all of us it has been a matter of amusement not unmingled with mortification to note the wide circulation of elaborate papers from the pens of men whom we know from personal knowledge to have had but little or no experience of the conditions of which they write, or practice of the procedure in which they would vauntingly figure as pioneers; they are men whose opinions are not sought for in consultation.

The statement has been made that the drainage tube, soon after being placed in position, will be completely encapsuled by inflammatory products, so that its usefulness will be destroyed and the parts to be drained will be shut off from the tube; if this be so, how do you explain the fact that in extrauterine pregnancy we have for days free drainage of pure blood from the placental attachment? The point of the tube will occupy but little of the space covered by the placenta,

¹ Read before the Medical Society of the State of New York at Albany, February 4, 1892.

yet the drainage goes on to a perfect cure.

Let me say just here that as long as the tube has been properly placed and the drainage is free, there will always be room for the fluid to descend to the lowest point, to be removed through the tube; nothing could close the way while there was any drainage to keep the way open; where there is not enough the tube should be removed.

The method of drainage known as Mikulicz's is one that has but a single feature to warrant its use, and no one but a bungler should be forced to such straits as to be compelled to use it to stop hæmorrhage. I have seen gauze packing used in one case of extrauterine pregnancy, and I now know that the glass tube would have done the work better, and the patient would have been out of bed two weeks earlier; drainage is not intended to take the place of proper preparation of the patient for operation, nor will a proper preparation of the case save her without drainage; both are required if you wish to reduce your mortality in all your work, both in difficult and easy cases, to a mortality of two or three in a hundred. This has been accomplished by a number of operators, and all of

them, without an exception, have been men who practise drainage, and use the glass drainage tube to the exclusion of all others. If they use any other it is exceptional: I do not remember to have seen more than half a dozen such cases in all my work and that of my brother—some 1,500 operations in all.

Drainage by the small glass drainage tube has been recognized and used by such men as Keith, Bantock, Lawson Tait and Joseph Price and many others, by several of them in more than a thousand cases, and from not one of them do we hear a word of objection or condemnation, but with one accord they claim for it absolute safety and efficiency, and it is not too much to assert here that these men know how to use drainage. No surgeon in his right mind can to-day doubt the propriety of drainage in extrauterine pregnancy, or when collections of pus have been dealt with in the peritonæum. In fact where there is dirt or leakage of blood and debris, drainage is indicated.

There is no other way whereby these materials are so perfectly under the control of the surgeon as when glass drainage is used.

The surgeon should have a collection of tubes, such as I show you here, of different lengths, so as to be able in any case to get to the bottom of the pelvis or of the cavity to be drained. In placing the tube in position the following precautions must be observed, if you wish to avoid trouble and have the tube do its work in a perfect manner. The surgeon must pass two fingers, with the palm or face toward the pubes, down to the very bottom of the cavity to be drained, and keep them there until the tube



These tubes are made 7¼, 7, 6¼, 5½ and 5¼ inches in length.

is placed, being sure no bowel is left under the tube; now let the assistant take charge of the tube and see that no change is made in its position while the surgeon is making the remainder of the toilet of the patient.

In the event of the displacement of the tube, as much care as before must be taken to have the displacement corrected.

The same care and cleanliness should be practised in the toilet of the tube as in other details of the operation. A long nozzle syringe should be used for the purpose; an addition of a short piece of rubber tubing should be used where the nozzle of the syringe does not extend to the bottom of the glass tube. The tube should be cleaned before closing the wound, so as to be sure there is no hæmorrhage, and again as soon as the sutures are placed and tied.

In order to protect the dressings from soiling, a rubber dam should be placed over the tube; this may be done by a mere nick in the middle of the rubber; slight stretching will enable the operator to place it over the end of the tube. A handful of absorbent cotton should be placed around and over the tube, and the four corners of the rubber pinned over all; another pin fastens the rubber to the bandage. The rubber should be from twelve to fourteen inches square, and over the entire dressing a wide and soft towel is placed and pinned to the bandage to prevent the patient molesting any part of the dressing. When the drainage or hæmorrhage or both are profuse the cotton should be changed and the tube cleaned every 20 minutes, and at least once an hour for the first six hours, and as the discharge lessens the time may be longer. The nurse should never leave the patient while the

drainage tube remains in the abdomen; this is a precaution not to be neglected. If the glass tube remains in place for thirty-six hours or longer, it must be followed by a small rubber tube, and the latter should be removed half an inch at a time at every dressing until the tube is out. I never knew any mischief to result where the tube was cautiously managed and removed as directed, and I have seen it used in more than one thousand bad cases. As soon as we decide to remove the drainage tube we should prepare the bowels by purgation to continue the drain, so that the peritonæum will be able to take care of all the drainage thereafter.

The glass tube should be long enough to come out of the wound at least half an inch, so as to make room for the dressings. After the tube is placed the apron of omentum, if it can be found, should be pushed down in front of the tube so as to protect the bowels.

A tube placed in this way cannot complicate any case of abdominal surgery, nor will it produce, or in any way help to produce, a fæcal fistula, but it will render great help to the surgeon, when he has either done bad work in his enucleation of diseased conditions, or when the conditions present were so connected with the bowel that its injury was unavoidable. It is in these cases that the drainage tube renders the greatest service to patient and surgeon, for without it we should lose many valuable lives. Where the bowel is necrosed and there is danger of a fæcal fistula the tube will prevent the infiltration of the contents through the abdomen. Fistulas formed in these cases all get well without an exception, so far as my experience has been.

Drainage of the solid abdominal

organs, liver, spleen and kidney, can be best accomplished by gauze packing, and the rubber drainage tube; when the lacerated, torn and cut tissues of these organs are to be drained, it is essential that the drainage should be free from the organ to the external surface, and to accomplish this the capsule of the diseased organ must be stitched to the internal borders of the wound.

The gauze drain can be used so as to prevent bleeding from cut surfaces and the extravasation of poisonous

materials within the peritoneal cavity. The gauze should come out of the external wound, so as to fasten or anchor the liver, while union is taking place, so as to prevent the movements of the liver during respiration; in bullet wounds the drainage should be conducted in this manner to prevent bleeding and to insure free drainage; it is sometimes necessary to enlarge the wound so as to stop bleeding. The gauze drain should be used in abscess of the spleen and kidney.

SOCIETY PROCEEDINGS.

Medical Society of the State of New York, at Albany, February 3, 1892.

DISCUSSION ON DR. MORDECAI PRICE'S PAPER, DRAINAGE IN ABDOMINAL WORK.

DR. A. PALMER DUDLEY, of New York, said that while he did not wish to consume the time of the society, yet he was unwilling that the paper should pass unchallenged. There were some points in it which, while strong, were still weak. So far as the glass drainage tube was concerned, it was all right in its place; but it was used in a great many cases where there was no need of it. He supposed that he had had for one of his years as much experience with the drainage tube as most men. He had had to watch over seven hundred

cases of abdominal section. He was not sure but that he had had the care of the drainage tube before the author of the paper made his first laparotomy, and he could claim to having watched it faithfully. He had seen good results and likewise bad results from its use. He had seen cases where death had resulted from accident after operation, and where the drainage tube was proved post mortem to have acted badly. He had many times seen post-mortem cases in which lymph had formed around the tube. He had seen the abdominal cavity filled with septic fluid and the drainage tube in position. He had seen the holes in the glass tube similar to the one shown by the

author, except larger in size, filled with lymph, while the abdominal cavity was almost full of septic fluid.

He had also many times seen and handled the gauze packing in abdominal operations, and he claimed that we could not properly drain the abdominal cavity in general peritonitis with any kind of glass drainage tube. It was hardly necessary to say that it was not easy for water to flow uphill. It was the same with fluids in the abdominal cavity. He contended that iodoform gauze was the best drain in peritonitis. While he had watched the action of the drainage tube a large number of times, his experience with it in his own cases was limited. He had made nearly two hundred laparotomies, and in that number he had used the drainage tube only twice, and lost both patients; yet he believed that he had made as many as seventy-five consecutive laparotomies for anything which required an operation, and had not lost one of the patients.

While he had used gauze in the abdominal cavity, he had never yet allowed it to come up through the anterior incision. It should be brought out below into the vagina. Common sense must teach one that if used in that manner it must drain as well as the tube, and a good deal better. When one had a case of laparotomy so complicated that there was danger of secondary hæmorrhage, of what use, he asked, was the tube except to establish the diagnosis of hæmorrhage, should it occur? Besides, if secondary hæmorrhage should occur, it would be necessary to reopen the abdomen, and if that were done the patient would still be very apt to die, but if in a case in which one had reason to fear secondary hæmorrhage and

should anticipate it by packing about the oozing points with gauze, allowing the end of the strip to pass out into the vagina posterior to the uterus, the gauze would then probably control the hæmorrhage, and, being at the lowest part of the pelvis, provide drainage for any fluids which should not remain in the cavity. The gauze did not retard the recovery of the patient; it hastened recovery in a good many cases. It did not produce intestinal adhesions; it was aseptic. It should not be left in long enough to become septic. The wound readily healed after its removal.

He had during his entire experience lost only two cases from peritonitis, and he blamed himself in those cases for not relying on gauze, and using it instead of trusting too much to his diagnostic skill. One case occurred in an Italian woman, operated upon at the hospital of the Post-graduate School, in whom the fatal result might have been obviated had he used gauze, or possibly had he been able to speak her language. In the other case the house surgeon failed to recognize the peritonitis, and the patient was moribund before Dr. Dudley saw her.

In concluding his remarks, he repeated that he did not believe in the use of the drainage tube unless there was danger of hæmorrhage, or there was a ruptured tube or an extra-uterine pregnancy. He claimed that the glass tube was used in hundreds of cases where there was no need for it. In most cases where drainage was called for, capillary drainage by gauze leading into the vagina was preferable.

Dr. JOSEPH HOFFMAN, of Philadelphia, said they (the two Prices and himself) were always glad to hear op-

position, when it existed, to a method in which they had a great deal of faith, because in that way men learned.

He supposed Dr. Dudley would not think of digging a hole down alongside a well to get the water out. He would apply suction through a tube if he could get water in that way. They could keep the drainage tube and the cavity dry much better by means of a syringe than by the use of gauze. Gauze must get wet up to its capacity for containing fluid, and only after that would it discharge the pelvic contents. Gauze, therefore, before it would drain away septic or other fluids, must first be soaked with them. Again, gauze would not discharge debris from the abdomen, whereas small pieces of lymph, little clots, etc., would be sucked out by the syringe. Further, it was a property of moisture to attract moisture, and they attempted to keep the cavity thoroughly dry, which could not be done by gauze. As to secondary hæmorrhage, they did not use the tube in order to prevent this accident, but where it occurred the tube gave the alarm.

Regarding choice of material and methods, he might say that they had tried every known material and every known method in their experiments with drainage. They had found the glass tube the best. Since the two Prices and he had employed drainage in this way over a thousand times with such success, he would ask what must one think of another using it in only two cases and losing both patients? It resolved itself simply into the question of knowing how. Bearing in mind the experience of others with the glass drainage tube, it was no more logical to say it was useless be-

cause one person had used it twice and lost both patients than to say that two and two did not make four. They did not say that gauze would not drain, but he held that by syringing out the tube every ten or fifteen minutes the cavity could be kept dryer than by the use of gauze.

Again, to say that gauze would not cause adhesions, was to say what had not been their experience. Take any fresh wound, he didn't care where it was, pack it with gauze, and in two days one could nearly pull his patient out of bed by traction upon the gauze. Why? Because the granulation tissue had grown up in the interstices of the gauze and glued it in.

In cases of abscess of the liver, where they wished to drain to the outside, they used gauze simply because it would set up an inflammatory adhesion around the edges of the abscess and prevent the pus and debris from entering the peritoneal cavity. If gauze had this influence in abscess of the liver, why not in the peritoneal cavity? That it did cause a layer of lymph to be deposited about it was shown in a case in which he wished to produce this effect about the sutured rectum so as to shut it off from the peritoneal cavity. He removed the gauze after sixty hours, and it was necessary to make so much traction and break loose adhesions that the patient was caused much pain.

Dr. JOSEPH PRICE, of Philadelphia, remarked that all knew that he was much interested in the subject of drainage, for he had taken part in many discussions upon it. He sometimes thought he would never say anything more about it; yet, since it was a life-saving service, he would not shrink from his duty. He could easily

prove by his correspondence that drainage was one of their chief life-saving means in treatment. About all of his work had been public, and his pupils went home supplied with a complete drainage outfit, which they applied with more or less success according to their skill and experience. It was seldom that a beginner's first operation was an easy one. The easy cases, usually in patients who could still go about, went to a Thomas or an Emmet, for, being able to travel, they could choose their operator; but the dying ones accepted the counsel of the one they first saw. This was unfortunate for the beginner. It was in that class of cases in which, in spite of their hopelessness, the value of drainage had been established.

Occasionally a man had criticised his practice, and had said that in five years Dr. Price would change his position. Such statements had been made five years and more ago, still he drained just as he did then, and even oftener.

The speaker quoted some statements of Sir Spencer Wells in opposition to drainage, but said that according to that gentleman's own statistics and those of his successors at the Samaritan Hospital it was evident that better results had attended washing out the peritoneal cavity with warm water and the use of drainage. Out of 1,378 cases of ovariectomy, Mr. Wells' mortality had been 14.13 per cent. He added, "I am well aware that two of my successors at the Samaritan Hospital drain much oftener than I ever did, and often flush, and they regard both practices as valuable additions to ovariectomy." Dr. Price added that they were also going even further, and were doing

some pelvic surgery. One could easily classify abdominal surgeons into ovariectomists and pelvic surgeons. The old ovariectomists rarely attacked pelvic troubles, and few of them had ever been successful with operations in the pelvis. Mr. Tait was an exception. Returning to the statistics of Sir Spencer Wells, which gave a mortality of 14.13 per cent., it was found that his successors who resorted to flushing and drainage had a mortality, in over 200 cases, of less than five per cent.

He begged the audience not to be influenced by two, four, or half a dozen cases of drainage. In his opinion, the man who condemned drainage was doing a number of operations which he ought not. All knew how much unqualified condemnation of pelvic surgery had been expressed in different quarters. It was due to operations undertaken for such conditions as globus hystericus, backache, and the like. The class of cases which the speaker had seen had usually been those in which life was directly in danger; cases of suppurative disease which were so common among women at present, and cases where blood had escaped. In that class he was satisfied that there were no other means of saving life except by washing and drainage. Take drainage from him, and his hands would simply be stayed in pelvic and abdominal work. While talking so freely about drainage, he did not mean to say that he drained everything. For instance, he had removed a non-purulent ovary on Sunday last, and while there was considerable manipulation in loosening it, yet he did not drain. When one removed something healthy from a healthy

peritoneal cavity there would be no necessity for drainage, for the healthy peritonæum was abundantly able to digest unirritating fluid; but in cases where he stripped the entire pelvic basin of peritonæum, or failed to find peritonæum, either healthy or diseased, where, for instance, the pelvis contained two large pus tubes of the size of sweet-potatoes, there one must drain if he would save his patient. He knew too well, however, that men were in the habit of calling these cases hopeless, and, overlooking their neglect of drainage, made that the excuse for a fatal ending. For instance, he yet had under observation a woman who had been treated for weeks for supposed typhoid fever. He found the cavity well filled with pus sacs up to the umbilicus, and fifteen or twenty inches of the ileum nearly disorganized. The case seemed to be a perfectly hopeless one, and cases similar to it in their seeming hopelessness were not rare. But he was willing to give the woman the one chance for life, and made section of the gut and cleaned out the cavity and drained. She lived, and was improving. She had a fæcal fistula, but that had been expected. He added that our knowledge of intestinal lesions was not quite as complete as some thought. The bowel would stand an immense amount of injury; in fact, it would recover and do its work without peritonæum. It was not always necessary to have peritonæum in closing wounds which we made while operating, or which we might find. This was proved in the present case.

He had also removed a large myoma last Sunday, which had been eighteen years in developing. The abdominal

incision had to be extended from the ensiform cartilage to the pubic arch. There was not a single adhesion, and consequently in that instance it would have been folly to drain. In cases of healthy tumors and healthy peritonæum there was no necessity for drainage, for the patients always got well, provided the operation had been ideally performed. In a Porro operation there was no necessity for drainage. If a little fluid or blood happened to escape, wash out carefully, and the patient would get well. He had demonstrated this in five consecutive Porros.

It was difficult to make opponents at least understand in just what class of cases they drained. In general it might be said that they drained wherever they had pus; wherever there was fluid in the abdomen antedating the operation. By fluid he meant leakage from pus tubes, muddy fluid, lymph, blood, fluid of ruptured ovarian cysts with localized peritonitis, or a suppurating dermoid. All such cases needed drainage. But in healthy cystotomy, in hysterectomy without adhesions, and all forms of healthy tumors, they never thought of drainage.

Dr. H. J. BOLDT, of New York, said that before the gentlemen had taken sides upon this subject, some for, others against, drainage, it had not been his intention to speak upon it at all. Now, however, he would say that in cases where there was moderate oozing of blood into the abdominal cavity after tearing up adhesions, also in cases of recently ruptured ectopic pregnancy, and cases in which cyst fluid entered the cavity, he had formerly drained, but later had closed the abdomen without drainage, and hi

patients had gotten well under both procedures. Where pus had escaped into the abdominal cavity he would use the glass drainage tube. The glass tube was best of all the tubes; but where there was a large oozing surface after tearing up adhesions, nothing would equal the Mickulitz drain. He had been using this drain for three or four years, had had on an average at least three or four such cases a year, and he had not had occasion to regret adopting this mode of drainage in a single instance. Only one of the patients had died.

He thought there were always two sides to a question. Doubtless some of the cases in which Dr. Price used the drain would recover with or without it.

Dr. A. P. DUDLEY said he did not wish Dr. Hoffman to go away with the impression that he would need

two wells in order to drain one, or that he did not know that gauze was necessarily wet while acting as a drain. But he did know that if the doctor attempted to dry his well by draining from the top it would constantly contain fluid unless he kept up continuous pumping, whereas if the drainage took place from the bottom it would remain practically dry.

Dr. JOSEPH PRICE remarked upon a desperate class of abdominal cases in which the quickest and shortest possible surgery should at first be resorted to, if one would hope at all to save life. Later, if the patient did not die, he could resort to whatever ideal surgery might seem to him proper; such were cases of ruptured gall bladder, perforation of the bowel, neglected cases of appendicitis, etc. The first object was to save life, therefore do not attempt too much at first.

TRANSLATIONS.

Upon Treatment of Breech-Presentations.

Dr. G. Winter, in the *Deutsche medicinische Wochenschrift*, February 5, 1891, Vol. 6, p. 213, at the Royal University Obstetrical Clinic in Berlin.

DR. WINTER holds that prophylactic pulling of the feet in normal cases of labor is usually wrong:

(1) Because it is unnecessary; for in 172 cases of breech-presentations 70 were primipara.

137 " spontaneously delivered.

35 " artificially " "

15 times the feet were pulled down.

6 " to relieve the mother.

4 " on account of the child.

5 " without any special indication for it.

Of 157 cases of breech-presentations

137 cases were treated expectantly; in

20 " artificial measures were used, always in primipara, never in multipara.

6 times without any real necessity.

10 " in order to deliver living children.

4 " on account of the mother.

Once the sling-carrier was used.

All the others were simply by manual extraction.

Three times the infants were born dead; once the sounds of the heart had ceased before delivery; in a second case it fell to 72 before birth; in a third case it rose to 180 before extraction.

(2) Because on account of the mother it is of no consequence, but to the child it is a dangerous procedure.

In seventy-two cases, to which I may refer (fifteen of them in Hoffman's statistics and twelve of my own), eighteen cases, where immediate extraction was made, seventeen living infants were born.

(1) Primipara waters broke twenty-six hours before, os dilated the size of a silver dollar; pains; temperature, 38.6° C.; pulse, 120; child alive; grasped the feet. Extracted in five hours; child deeply asphyxiated; died.

(2) Primipara waters broke three and three-quarter hours before; os size of half a dollar; pains weak; cord prolapsed with a pulsation of 140; drawing down the feet, the cord beat 60, and was returned. By slowly pulling on the leg the os was opened, three-quarters of an hour later the extraction was completed. Child living.

(3) Primipara waters broke one and a half hours before; os lax; pains very weak drawing down the feet; in three-quarters of an hour, the heart of the child becoming irregular, it was delivered, the infant slightly asphyxiated: lived.

(4) Primipara waters have been broken for thirty-five hours; os much larger than a silver dollar; no labor; absolutely no pains; grasped the feet and occasioned weak pains after five

hours; the sound of the heart of the child became faint; delivered; dead child.

(5) Seventh delivery.—First position of the breech; prolapsis of cord; os larger than a dollar; grasped the feet immediately, gave rise to a pain, which brought the child at once as far as the navel; delivered living, but deeply asphyxiated.

(6) Primipara.—Second breech position. Waters broke sixty hours before. Temperature, 39.1° C.; pulse, 136. Uterus tympanitic; grasped the feet in forty-five minutes; asphyxiated; living child was born spontaneously.

(7) Primipara.—First breech position. Waters were broken sixty hours ago. Grasping the feet soon gave rise to a pain.

(8) Second delivery. — Second breech position. Post partum, grasped the feet, and in eleven minutes a living child was spontaneously born.

(9) Primipara.—Second breech-presentation. Since 11 A.M. a doctor had tried to grasp the feet; at 2 P.M. the child was dead in the womb, and then was spontaneously born.

For the treatment of breech-presentations he makes the following rules:

(1) Normal breech-presentations are to be expectant; manual assistance is only rendered in the birth of the upper half of the body.

(2) Grasping of the feet is only to be used as a prophylactic measure in prolapse of the cord, eclampsia and narrowing of the pelvis; it should be delayed until the os is sufficiently dilated to allow immediate extraction.

(3) The urgent completion of labor in breech-presentations, whether the breech remains movable above the pelvis, or has just entered it, is

made by grasping the feet and immediately delivering. If it is low in the pelvis, we try manual extraction at the *anterior* groin, and if it does not come use Bunge's sling-carrier.

H. H.

Renewal of Menstruation and Subsequent Pregnancy, after Removal of Both Ovaries.

J. Anderson Robertson (Glasgow, Scotland).

THE author performed extirpation of both ovaries for cystic disease of these organs in a girl 23 years old. Three months after the operation she began again to menstruate. Five months after the operation she was married, became pregnant, and was delivered of a strong and perfectly healthy male child on October 25, 1890.

"From this very interesting case we may," says the author, "I think, learn several lessons. Amongst these are :

"(1) The truth of Mr. Lawson Tait's teaching regarding the starting point of menstruation—namely, that the ovaries are not causative of it. In fact, in this case, the presence of the diseased ovaries prevented it ; normal menstruation was interrupted and the patient suffered from vicarious menstruation, as nose-bleeding, hæmoptysis, etc., and when they were removed normal menstruation followed.

"(2) The possibility of vicarious menstruation. The woman had brought

up blood daily for months, but this ceased after removal of the ovaries—that is, when normal menstruation became possible—and it has not recurred.

"(3) The proof that removal of both ovaries does not necessarily render a woman impotent. (An interesting medico-legal discussion might be raised on this point.) I was not aware of leaving any ovarian tissue. Indeed, my aim was to extirpate the ovaries thoroughly, and I thought I had done so. I suspect, however, that a small portion of healthy ovarian tissue had reached up to or beyond the hilus of the right ovary, and that this may have taken on regular ovarian functions. This, of course, is merely conjecture.

"(4) That in performing double oöphorectomy, excepting in cases of uterine fibroid, any apparently healthy portion may, perhaps, be left. I shall, at all events, keep this in mind in future operations."

P. & P.

Porro's Operation.

Centralblatt für die Med. Wissenschaften, 1891, No. 40.

BEAUCHAMP has published a further contribution toward the simplification of Porro's operation in the *Archives f. Gynæcology*, XL., p. 117. He adds

five cases to the two already described by Frank, in which the uterus was amputated and the stump inverted, through the cervical canal, into the

vagina. Beauchamp advises the following further modifications of this operation :

(1) Opening the abdomen and uterus, and rapid removal of the child through the wound. Through each side of the gaping uterine wound are placed lateral sutures, to the long ends of which are attached safety-forceps, which, with the ends of the sutures, are passed through the cervix into the vagina.

(2) Inversion of the entire uterus, together with the ovaries, through the neck of the womb into the vagina.

(3) Constriction of the body of the uterus by an elastic ligature applied near the vulva to the inverted uterus, while

(4) The operator is closing the abdominal wound in the usual manner.

(5) Simultaneous amputation of the body of the uterus and the ovaries at the level of the vulva. Two strong silk sutures are placed laterally in the tissues of the stump of the amputated uterine cervix to prevent slipping, while the peritoneal covering of the stump is united by a special silk ligature, which shuts off the abdominal cavity.

Beauchamp calls attention to the simplicity of technique in his improved operation, the diminished danger of infection, and the shorter time of the operation, as well as the reduction of time and ease of after-treatment.

Cancer of the Uterus.

Centralblatt für die Med. Wissenschaften, 1891, No. 40, p. 743.

W. SCHUELEIN gives an abstract of the article by G. Winter, in the *Berlinerl kin. Wochenschrift*, upon the early diagnosis of cancer of the uterus as follows :

"A compilation of large numbers of statistics of operations within the last few years, as presented by Olshausen, Schauta, Fritsch, Kaltenbach and Leopold, has proved that among 474 total extirpations of the uterus, there were forty deaths—that is, 8.4 per cent. mortality. The supravaginal amputation of the cervix, according to Schroeder, yields still more favorable results. In the Berlin Gynæcological Clinic there were 155 operations, with ten deaths—that is, 6.5 per cent. mortality. Of the last sixty-four supravaginal operations there was not a single death to record. It is very encouraging that the number of cases of operation is increasing from year to year, although

far too many are seen at a time when it is too late to operate successfully. Winter appeals strongly to physicians to examine all cases in which there is the least suspicion from the symptoms, to ascertain whether there is carcinoma, as only in this way can the diagnosis of the disease be made at the earliest stages of the malady. He gives a *resumé* of the most prominent symptoms, for the guidance of the practising physician, who may not at once recognize the nature of the case, which may be of very obscure character at first. He calls special attention to the abundant watery discharge from the vagina, particularly in cancer of the portio vaginalis, the profuse menorrhagia, as well as the bleeding during cohabitation. . . . Pain is one of the rarest symptoms of commencing carcinoma." B.

Abdominal Massage in Constipation.

Gazette Med. de Liege, No. 14, 1891; Revue Obstét. et Gynécol.

KARNITZKY considers abdominal massage to be the best treatment of infantile constipation, and that purgatives need only be used in the most exceptional cases. The séances need not last more than three to ten minutes. It was found the younger the child the quicker the cure.

BOOK REVIEW.

A HANDBOOK OF OBSTETRICAL NURSING FOR NURSES, STUDENTS AND MOTHERS, comprising the Course of Instruction in Obstetrical Nursing given to the Pupils of the Training-School for Nurses connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M.D. Philadelphia: P. Blakiston, Son & Co.

This work does not require an extended notice, not because it is not

excellent, but because being a second edition it is already known. Full directions are given for the care of the mother and infant, for the duties of the nurse in cases of accidents occurring in labor or the puerperium, for the resuscitation of still-born infants, for the use of the incubator, the preparation of sterilized food, and other important matters.

GYNÆCOLOGICAL THERAPEUTICS.

LEUCORRHŒA.

Prof. C. Braun, of Vienna, recommends in leucorrhœa, associated with chlorosis, the following:

R. Ferri sulph. cryst.,
Kali carbonic. et tartara, āā 3j¼.
Extr. et pulv. r. gentianæ q. s. ut fiant
pil. No. 60.

Sig.—Two pills, morning, noon and evening.

If the leucorrhœa be bloody, then:

R. Ferri sulph. cryst.,
Kali hydrocarbon, āā 3j.
Ergotin pur., gr. xxij.
Extr. et pulv. r. liqueritiæ, āā q. s. ut
f. pil. No. 50.

Sig.—Two or three pills, morning, noon and evening.

If constipation be present, then:

R. Ferri sulph. cryst.,
Kali hydrocarbon, āā 5j.
Aloës lucid., gr. xxx.

Sig.—A teaspoonful, morning, noon and evening.

Or:

R. Ferri oxydat. dialyzat., 3j¼.
Aq. f. d., f3iv.
Syrup. rub. idæi, f3vj.

Sig.—A teaspoonful, morning, noon and evening.

These last two formulæ are well borne by the stomach.—*Clinic of Prof. C. Braun, Vienna.*

ACUTE VAGINAL CATARRH.

The following injection is used in acute vaginal catarrh :

R. Zinci sulphuric, 5 jiss.
Aq. fontan. dist., f 3 xijj.

Sig.—Sufficient for one injection.—*Revista Clinica e Terapeutica*, 12, 1890.

METRORRHAGIA.

The following formula is spoken highly of in metrorrhagia :

R. Ergotin pur., 3 j.
Aq. fontan. dist.,
Aq. menth. pip., āā f 3 ij ¼.
Syr. cinnamon, f 3 v.

Sig.—One to two tablespoonfuls every hour.
—*Gaceta Medica Catalana*, 12, 1890.

MIGRAINE.

The following has been used successfully in migraine :

R. Caffein citr., gr. xiv.
Phenacetin, gr. jiss.
Sacchar. lactis, gr. iv.

Make 10 powders.

Sig.—One powder every hour until relieved.
—*La Medicine Moderne*, 10, 1890.

SKIN PIGMENTATIONS OF PREGNANCY.

The following is recommended in the skin pigmentations of pregnancy :

R. Zinc. oxydat., 5 j ¼.
Hydrar. præcip. alb., gr. jiss.
Ol. ricini, f 3 ijiss.
Ol. rosæ, gtt. q. s.
Butyr. cacao, 3 ijiss.

Sig.—Rub in well, morning and evening.—
Revue de Therapeutique, 9, 1890.

LEUCORRHOEA.

The following is praised in leucorrhœa from chlorosis with constipation :

R. Ferri carbon. sacchar.,
Pulv. rad. rhei, āā 3 ijiss.
Sod. phosphat., 3 v.
Det. ad scatul.

Sig.—The point of a knife-blade, morning and evening.—*La Independencia Medica*, 10, 1890.

PAINFUL MENORRHAGIA.

The following is recommended in menorrhagia with pain :

R. Tinct. hydrast. canad., f 3 j.
Extr. hydrast. canad., f 3 iv.

Sig.—Twenty drops three times a day.—
Il Raccoglitore Medico, 11, 1890.

LOCAL ANÆSTHESIA OF THE BLADDER.

To produce local anæsthesia of the bladder inject the following :

R. Aq. fontan. dist., f 3 jiss.
Cocain. murat., gr. v-ix.

Sig.—Sufficient for one injection.—*Il Raccoglitore Medico*, 11, 1890.

FACIAL NEURALGIA.

Dr. Stewart thinks hypodermic injections of ergotin in facial neuralgia to be superior to aconite or gelsemium. Generally one injection is sufficient, but sometimes two or even three may become necessary—
The Medic. Anal. Gaceta Medica Catalana, 10, 1890.

ASAÆTIDA IN HABITUAL ABORTION.

Dr. Negri, of Venice, Italy, besides his cases formerly reported where he successfully used asaætida in habitual abortion (*Centralbl. f. Gynækologie*, 22, 1887), has recently employed it in three more cases with good results. The remedy has also been given by *Laferla* and *Cazanne* with similar results.—
Centralbl. f. Gynækologie, 39, 1890.—*Norsk Magazin for Laegevidenskaben*, 11, 1890.

CRACKED NIPPLES.

Dr. Scarff speaks highly of the following in cracked nipples :

R. Balsam Peru.,
Tinct. arnicæ, āā f 3 iss.
Ol. amygdalæ dulc., f 3 j.
Aq. calcis, f 3 iv.

Sig.—Apply topically after each time the child suckles.—*Le Progres Medical*, 47, 1890.

PHENYLURETHRAN AS AN ANTIPYRETIC.

Sansoni finds phenylurethran to be twice as powerful an antipyretic as antipyrin. The average dose is 0.5 (7 years) ; it is not, however, free from any side-action.—*Wiener medizin. Blätter*, 40, 1890.

P. & P. (VIENNA).

HYDRASTIUM IN UTERINE HÆMORRHAGES.

Instead of being employed hypodermatically in severe menorrhagia and metrorrhagia from myomas, hydrastium may be given internally according to the formula :

R. Hydrastini hydrochl., gr. viij.

Pulv. et succi. liquoritiæ q. s. ut fiant pil. No. 10. Consp.

Sig.—One to two pills daily. If there be hæmorrhage, two pills daily. In cases of menorrhagia, one pill daily may be given for several days before the time of the expected hæmorrhage.—*Therapeutische Monatshefte*, No. 6, 1890.

MENTHOL IN PRURITIS VULVÆ.

Dr. Saalfeld, of Berlin, has found menthol, in a three to six per cent. alcoholic solution, to be more efficacious in this affection than either carbolic or salicylic acid solutions. He also obtained good results from a menthol-lanolin salve.—*Verhandlungen d. Dermatol. Vereinig. zu Berlin*, 1890.

PIGMENTATIONS IN PREGNANCY.

Dr. Monier recommends the following formula for chloasma and the different pigmentations of pregnancy :

R. Butyr. cacao, 3jiss.
Olei ricini, f 3jiss.
Zinc. oxyd. pur., gr. v.
Essent. rosæ q. s.

Sig.—Apply mornings and evenings.—*Gazetta degli Ospitali*, No. 13, 1890.

AN ODORLESS IODOFORM SALVE.

Dr. Oppler proposes the following as completely odorless :

R. Iodoform, gr. xxxviij.
Coffeæ tostæ, gr. xvij.
Lanolin, 3v.
Adip. depurat., gr. xxxviij.

M. et fiant unguent.

CREOLIN IN PRURITUS VULVÆ.

Dr. Durr prescribes in pruritus vulvæ the following :

R. Ol. lini, 100 parts.
Creolin, 3-5 parts.

Sig.—Apply locally three or four times daily.—*El Siglo Medico*, p. 600, 1890.

HYPODERMIC TREATMENT OF METRORRHAGIA.

Dr. Baroni has used the following successfully in metrorrhagia from myomata of the uterus :

R. Ergotin crystallizat.,
Acid. lactic, āā gr. iij.
Aquæ lauroceras., f 3v.
Aquæ distillat., q. s. ad f 3ij. M.

Sig.—Inject hypodermically twelve to sixteen drops at a time.—*Gazetta degli Ospitali*, No. 22, 1890.

DYSMENORRHŒA.

Dr. Huchard (Paris) praises the following formula in dysmenorrhœa :

R. Tinct. hydrast. canad.,
Tinct. viburn. prunifol., āā f 3iv. M.

Sig.—Ten drops every two hours in a little sweetened water. This formula is of especial service in dysmenorrhœa with hæmorrhage.—*Formulaire Aide-Memoire de la Faculte de Medicine de Paris*.

CHLORAL HYDRATE IN CRACKED NIPPLES.

Dr. Mitropolsky has used chloral hydrate externally in cases of cracked nipples with excellent results. Although it does not prevent the further formation of cracks it induces those already existing to heal without disturbing the process of suckling. He employed the following formula :

R. Chloral hydrate, gr. xj.
Aquæ distillat., f 3ij. M.

Sig.—Apply locally by means of moistened compresses.

Dr. Monti recommends :

R. Guttæperch., gr. xxx.
Chloroformi, q. s. M.

Sig.—Apply locally by means of a camel's hair pencil.

This forms a protective covering under which the process of healing goes on undisturbed.—*Deutsche medicinische Wochenschr.*, No. 18, 1890.

AN ANTISEPTIC SOLUTION FOR SPONGES.

Prof. Berrens recommends a mixture of thymol, one part dissolved in alcohol to one thousand parts of water, to be a good antiseptic solution for sponges.—*Zeitschr. d. allg. Apothek. Vereins*, 1890.

METRORRHAGIA.

Dr. Huchard (Paris) employs the following formula in the treatment of metrorrhagia:

R. Ergotin,
Quinæ sulphat., āā 3j.
Ext. hyoscyam. nig.,
Pulv. fol. digital., āā gr. vj. M.

Sufficient for forty pills.

Sig.—Five to ten pills daily.—*Formulaire Aide-Memoire de la Faculte de Medicine de Paris.*

DISINFECTANT INJECTION IN CANCER OF THE UTERUS.

Dr. Cheron makes use of this formula in cases of uterine cancer:

R. Natr. salicyl., 3jss.
Acid. salicyl., ℥ xv.
Tinct. eucalypt., f 3jss.
Acet. vin., f 3xvj.

Sig.—Inject per vaginam one to two teaspoonfuls to a pint of warm water.—*Deutsche medicinische Wochenschrift*, 5, 1890.

TYMPANITES ACCOMPANYING METRITIS AND PERITONITIS.

The following formula is recommended:

R. Naphthol,
Magnes. carbonat.,
Carb. vegetabil., ana 3j.
Essent. menth. piperit., gtt. x.

Sufficient for fifteen powders.

Sig.—A powder to be taken whenever the distention becomes distressing.—*El Siglo Medico*, p. 606, 1890.

SUPPOSITORY FOR DYSMENORRHŒA.

Dr. Farlour employs the following formula:

R. Extr. cannabis indic., gr. ¼.
Extr. belladonn., gr. ¼.
Butyr. cacao, 3j¼.

Sufficient for one suppository.

Sig.—Insert a suppository each night five days before the appearance of the menses.—*El Siglo Medico.*

PERMANGANATE OF POTASSIUM AS AN EMMENAGOGUE.

Dr. Ellis has obtained good results in the employment of permanganate of potassium in the treatment of menstrual disorders and

in amenorrhœa in young women. The effects of the drug apparently are not due to the potassium, but to the manganese, for other preparations of manganese have also been found to be equally efficacious. Manganese does not act as a general tonic, but rather as a stimulant of the uterus and its appendages. The bad effects observed after its administration by some clinicians are said to follow its being given upon an empty stomach. This may be, however, avoided by drinking a cup of milk immediately after taking it. It may be prescribed in solution or as a pill, as for example:

R. Potass. permangan., gr. xii.
Aque distillat., f 3ij. M.

Sig.—A teaspoonful in a cup of water three times a day. Or:

R. Potass. permangan., gr. xv.
Excipient q. s.

Fiant pil. No. 20.

Sig.—Four pills daily, two in mornings and two evenings, until the menses appear.

Dr. L. Voff (Moscow) combines permanganate of potassium with extract of anemone pulsatilla, and uses it in dysmenorrhœa with satisfactory results. The remedy is commenced with about eight or ten days before the time when the menses are expected to appear.—*Revista Argentina de Ciencias Medicas*, p. 100, 1890.

ANEMONE PULSATILLA IN DISEASES OF WOMEN.

According to Bovet, this remedy is a powerful sedative in painful conditions of the uterus and its appendages. He used it successfully in dysmenorrhœa, metritis, oöphoritis, salpingitis, amenorrhœa, etc. In neuralgias, it is superior to aconitine. An alcoholic preparation made from the fresh plant was found most active.—*Gaceta Medica Catalana*, No. 18, 1890.

ENDOMETRITIS.

Dr. Terrier (Paris) prescribes the following:

R. Pulv. iodoform, 3jss.
Gourm. tragacanth., gr. viii.
Glycerin., aque distillat., ana q. s.

This suffices to make ten pastiles.

Sig.—Insert into the uterus and hold in place by a tampon. *Journ. de Med. de Paris*, No. 30, 1890.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of February 4, 1892.

THE PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

DR. B. F. BAER presented the specimen, and reported

A CASE OF HYSTERECTOMY FOR A LARGE FIBRO-CYSTIC TUMOR OF THE UTERUS.

This specimen is unique in my own experience and so rare in the experience of others that I thought a report of the case might be profitable. The patient was brought to me by Dr. A. P. Hull, of Montgomery.

She was forty-two years of age and single. Her abdomen began to enlarge about four years before she came under my care, at which time it was as large as at the full term of pregnancy. She had been treated with electricity for two years by another physician, and in the meanwhile she had been tapped three or four times, and about two gallons of fluid removed at each tapping. Dr. Hull had made a diagnosis of fibro-cystic tumor of the uterus. After hearing the above history, and before making an examination, I expressed the belief that the tumor would prove to be ovarian, but after investigation I concluded that the doctor was probably right. She was greatly emaciated and had suffered great pain, so that she was taking a large dose of laudanum several times a day.

Examination showed the pelvis to be occupied by a large, solid mass like a child's head. The mass extended upward and was continuous with the abdominal growth. There was decided fluctuation above, in the upper left portion of the tumor, but the wall of the mass was thick and heavy and felt on the right side like the edge of the liver. Her pulse was weak, and she was generally in a bad condition for operation. But she was anxious to be relieved at once, and I decided in favor of what proved to be one of the most, if not the most, difficult operation that I have ever performed.

The operation was made on October 24, 1891.

An incision four inches in length showed the tumor to be universally adherent. At several points, where the tapping trocar had entered, there were strong organized bands which required ligation. In addition to the adhesions of the tumor to the abdominal wall it seemed to be embedded among the intestines and beneath the peritonæum and to be covered with and surrounded by large veins. I was puzzled how to proceed. I increased the incision and then tapped the tumor, about two gallons of fluid resembling pus escaping. This reduced the size of the tumor considerably, although it was still very large. In separating some of the large adhesions it was necessary to place ligatures. At length I got the tumor out of the abdominal cavity. It was now learned that the tumor was subperitoneal and that the cæcum was closely attached to the upper right side of the tumor. It was between the peritoneal folds of the broad ligament and cæcum. I began to release the bowel by dissecting it off from the tumor, but soon found that this was a mistake, for I not only encountered some very large veins, but I would have been compelled to separate the entire colon from the tumor. I then, by a sort of inspiration, commenced on the opposite side of the tumor, and found, to my delight, that it could be very readily shelled out from between the peritoneal folds as from a capsule. I felt greatly relieved that I did not proceed as I had begun. On removing the tumor from the pelvis I uncovered a large mass of veins and left an immense hole. The hæmorrhage until now had been only slight, but veins were now opened, and the bleeding was considerable. The attachment of the tumor to the uterus was small and ribbon-like. The right ovary was spread out upon the surface of the tumor and was lost in a network of veins. The pedicle of the tumor was now ligated and severed. The large mass of veins were grasped, and this controlled the hæmorrhage

in a measure. I then decided to remove the uterus which had been greatly injured. Still there was bleeding from the veins. I then ligated them *en masse*, but I soon found that this was a mistake for they still bled from below, and by the time I had tied the vessels on the other side the ligature around the mass of tissues and veins which had formed the capsule of the tumor broke, and terrific hæmorrhage occurred. I then transfixed and ligated, but here again I made a mistake, for the ligature cut through. I then quickly packed the pelvis with sponges and folded towels, and Dr. Dorland applied all the pressure he could force upon them, while I proceeded to place the abdominal sutures. On removing the sponges, a great hæmatocele was found to be forming and looked as if it were about ready to burst. I at once decided to close the abdomen and apply pressure. The question of drainage was decided by one standing by me who said that "the tube would interfere with pressure and would probably cut through the veins." The incision was closed, a large pad laid over the wound and a large number of towels on top of this, and the whole strapped firmly in position with adhesive plaster. By this time the patient was pulseless and at times gasping for breath. It was thought by all present that she would certainly die. But she rallied under stimulus and made a good recovery. Her temperature was never above 100° until the tenth day when, on account of some digestive trouble, it rose to 101. The patient went home on the 21st of November, less than four weeks after the operation, and she has been well since. There was immediate union of the abdominal incision. She was kept in the dorsal position for some days on account of the hæmatocele, and during this time a bed-sore occurred, but it had healed before she returned home.

DR. J. M. BALDY:

UTERINE CYSTS.

During the past three months two cases have passed through my hands of cysts of the uterus. The first one was a cystic sarcoma of the uterus, forming a tumor which completely filled the abdominal cavity and distended it enormously. The tumor was one of rapid growth in a large, rosy-cheeked and healthy-looking woman. The symptoms were for the most part those produced by

pressure. The breathing and pulse were both much affected. An abdominal examination revealed a fluctuating tumor, the walls of which were thick and the fluctuation very unsatisfactory. A vaginal examination showed the pelvis to be filled with a large fluctuating tumor, and what was taken to be the fundus of the uterus was found somewhat posterior. The removal of the tumor was undertaken with the expectation of a difficult operation, but with the idea that the neoplasm was a thick-walled malignant ovarian cyst. It was found densely adherent in all directions, and the omentum was ligated in sections close up to the transverse colon. After the cyst had been emptied and withdrawn from the abdominal cavity its pedicle was found to be the cervix of the uterus itself. The portion which had been mistaken for the fundus of the uterus when the vaginal examination was made proved to be a solid sarcomatous mass in about the position one would look for the fundus uteri in relation to an ovarian cyst. A clamp was placed on the neck of the uterus, and the pedicle was treated by the extra-peritoneal method as in an ordinary hysterectomy for fibromata. No attempt was made to remove the cervix and appendages for the reason that the operation had already been as prolonged and severe as was consistent with the safety of the patient. The woman was an exceedingly large woman, and the complete removal of the cervix would, under any circumstances, have been a most formidable one. The broad ligaments were both involved close up to the pelvic wall, and on one side included the soft tissues of the pelvic. As there was no chance of saving the woman from a return of the disease, it was considered best not to invite a death from operation by any longer manipulation.

The specimen from the second case I hold in my hands. The patient was sent me with the diagnosis of an ovarian cyst. Such I considered it up to the time of opening the abdomen. Abdominal palpation gave all the characteristics of an ovarian cyst, unilocular. The only counterindication to this from the vaginal examination was the fact that the fundus of the uterus was not found. This fact was attributed to the superficial examination I made, and I assumed that the fundus was crowded backward, and the reason it was not found was because I had not looked for it very diligently. On opening the abdomen

the character of the cyst wall made me suspicious that it was not altogether what I had supposed it to be. Up to the umbilicus the cyst was very vascular and covered with a web of small veins and arteries; above the umbilicus the cyst had the appearance of a thick wall of a dead-white color; the line of demarcation between these two portions was marked. So suspicious was I that the vascular portion was the bladder adherent high up that I hesitated to plunge my trocar into the cyst through it until I had passed my hand into an enlarged opening down toward the pelvis. Much to my surprise I met with exactly the same condition that one would meet were he dealing with a fibroid. I found what proved, on passage of a sound into the bladder, to be the bladder at the base of the tumor in front with its peritonæum reflected to the cyst. The cyst was now emptied and proved to be a monocyst, with a wall no thicker in its lower portion than an ovarian cyst: the upper half, however, was as thick as it is found in sarcomatous cysts. It contained a dark-colored fluid. Where the sac was fully drawn through the incision the true nature of the tumor was revealed. Both ovaries and tubes were brought into the incision and demonstrated to the satisfaction of all the visiting physicians. The appendages and broad ligaments, as well as the pelvic walls, were covered in spots with papillomatous growths, several the size of a walnut. It was considered useless to attempt a clean removal of everything, so the question resolved itself into how to deal with the cyst. If one will imagine an atresia of the cervix to have taken place and the uterus itself to have gradually distended into an enormous cyst filling the whole abdominal cavity, he will have a pretty clear idea of its relations. No adhesion existed. The cyst was drawn well out of the incision and surrounded as low down as possible by the wire of a *serre-nœud*; the pedicle was treated by the extraperitoneal method.

The growth in both of these cases was a rapid one. Both women were moderately well advanced in years, the sarcoma case being nearly forty, the papillomatous case being about fifty-five, having passed through the menopause some eight or ten years before. Both were strong, healthy-looking women. Both made good recoveries, and as yet continue in good health. The time has been short, however, in both cases.

The cases are unique in my practice, being the only tumors of the kind I have ever seen. In neither of them is there a chance of the condition having been the result of cystic degeneration of fibromata.

DISCUSSION.

DR. B. F. BAER :

If this is the dilated uterus it is certainly a rare specimen, but it presents the appearance of an ovarian cyst. The external surface looks very much like an ovarian cyst. It certainly presents a peculiar appearance for a uterine tumor, for there is not any evidence of the Fallopian tubes or broad ligaments. It would be of great interest to have this specimen subjected to a careful microscopic examination. It is unfortunate that the sound was not passed through the os uteri before the operation, for that might have assisted in the diagnosis by evacuating the fluid.

DR. JAMES M. BARTON :

This case is interesting, and reminds me of one that came under my observation some years ago, and the only uterine sarcoma that had any points of similarity. The case may throw some light on the one reported to-night. The woman had been suffering from a large fibroid of the uterus. This occurred before hysterectomy had become an established operation, and she refused interference. The tumor subsequently began to enlarge rapidly, the greatest enlargement occurring a few months before death. The tumor became sarcomatous, as was shown by the occurrence of secondary sarcomata in the arm, forehead and brain. These were examined microscopically. The upper portion of the fibroid tumor had taken on the appearance seen in this specimen. There was a cyst filled with fluid of the character described by Dr. Baldy, the cyst wall was as heavy as this, and the lower part of the tumor was sarcomatous. Of course, at the same time, there was an enormous sarcoma still present. The specimen was presented to the Philadelphia Pathological Society, and should be in the museum of the German Hospital. The entire absence of any ulcerating sarcoma in this specimen throws doubt upon the diagnosis of cystic sarcoma.

DR. CORDIER :

I would ask whether or not this patient h

been menstruating regularly? Were the ovaries and tubes found? Had the patient ever given birth to a child? Has a microscopical examination been made?

DR. J. M. BALDY:

No one could have been more astonished than I was at the condition found. The operation was uncomplicated. The tumor was a simple monocyct. The patient was 55 years of age, and had passed the menopause. She has several grown children. Both tubes and ovaries were brought into the incision before the cyst was removed to demonstrate that the cyst was not ovarian. The bladder and everything was so drawn up that the relations could be well seen. If there had been atresia of the cervix, with menstruation continuing, we should have had exactly this condition produced—an immense monocyct. I have as yet not had an opportunity to have a microscopical examination made, but I think that the cyst is unquestionably uterine, although I never heard of such a condition before.

DR. J. M. BALDY:

EMMET'S *vs.* TAIT'S OPERATION ON THE PERINÆUM.

It is not intended in this brief communication to go into a description of the make-up of the perinæum, or to discuss the various methods by which a pelvic floor is ruined, neither to enter into a discussion on the respective merits of the different denuding operations for the repair of a lacerated perinæum. The Emmet operation is taken to represent that whole class of procedures which depend for their result on the removal of mucous tissue, or the so-called denuding operations. This operation is chosen for this purpose, because to my mind it is the peer of any and all the others, except, possibly, the Goodell operation. Its results are so satisfactory in my hands that I never expect to do any other routine. The so-called Tait operation is chosen to represent the flap-splitting procedures. In considering this subject it must be borne in mind that reference is not made to that class of cases where the sphincter ani muscle is torn through; in other words, a complete laceration of the perinæum. I exclude this class of cases because in many of them the flap-splitting

operation will answer perfectly well, and is easier of performance than any of the others.

As between the two above-mentioned procedures, there should be no room for difference of opinion; but the whole profession has been so thoroughly imbued with the virtues of the flap-splitting method that they have gone well-nigh mad on the subject. My own belief is that a good deal of harm has been done in this direction, and it is full time for those who have not caught the contagion to raise their voices against what must in time become evident to all.

Dividing the lacerations of the perinæum, which we have under consideration, into two classes, I should say that the Tait operation was applicable to that class in which the tear was superficial and did not involve, to any great extent, the pelvic floor, and in which the result was a gaping vulvar orifice. In this class of cases the posterior wall of the vagina is well up against the anterior wall, and there is no rectocele or cystocele. A rectocele or cystocele or both, for the most part, indicate that the laceration has affected the muscles and fascia of the pelvic floor, and in this class of cases the Tait operation might as well be thrown out of consideration altogether, as it in no way fulfils the indications. Here the Emmet procedures are pre-eminently superior. In the first class of cases the Tait operation will lift up the external tissues and will close an otherwise gaping vaginal orifice. The results are, however, altogether cosmetic. If the same operation is performed in the presence of a rectocele, it gives an apparently perfect result as viewed from the outside, but a careful inspection of the inside (especially after the healing process is completed) will reveal the fact that the rectocele exists in all its former glory, and is only dammed back by a thin obstruction raised in front of it. In other words, the perinæum, which looks so well from the outside, is purely superficial, and in no way deals with the tear which has, in all probability, extended up the vagina for the distance of from one to two inches. There is a limit to which the flap-splitting can be carried, and a number of writers warn us not to dissect up too far into the septum. In many of my cases I have dissected as far as possible, far beyond the limits laid down by those who pretend to know best about this operation. In not a single case—my list now numbers between

twenty and thirty—was the result satisfactory. The longer, after the operation, the patient was examined the more dissatisfied was I with the result; case after case with the rectocele held back temporarily by a skin barrier built up at the vaginal outlet, occurred. One case I subsequently cut down and built in a good substantial perinæum by the Emmet method, and I presume I shall have to do the same with some of the others if they come back to me. The Emmet operation fulfils all the indications; it narrows the distended vagina, and, lifting up the posterior vaginal floor to its natural level, gives good support throughout the whole vaginal tract to the anterior wall and bladder; it matters little whether the external or skin perinæum exists or not. It is a hard operation to understand and learn, and takes some little time to perform properly. This has always appeared to me to be the reason that it has not become a popular operation. The Tait or flap-splitting operation on the other hand is a simple and easy procedure, which once seen can readily be duplicated. Were it not that some very excellent gynæcologists have adopted the operation, the ease and rapidity with which it can be done would seem to me to be the secret of its success. There can be no question but that it has its place in gynæcological surgery, but that place is a limited one. The operation is easy of performance, but is subsequently very painful to the patient. My nurses all protest against my performing it, as they have so much more trouble with the patients than after an Emmet. The pain is almost as great as in the days when the older operations were performed by plunging a needle through large quantities of tissues and tying the sutures outside.

DISCUSSION.

DR. WILLIAM E. ASHTON :

I have been much interested in Dr. Baldy's remarks in regard to the comparative value of Tait's and Emmet's operations for lacerated perinæum. I agree with him that the Tait operation should never be done except to close a gaping vulvar orifice. I have seen a large number of Tait operations, but in none have I seen the rectocele cured. The result obtained is, as Dr. Baldy has said, simply a damming back of the rectocele. For

a time it prevents the rectocele from being seen, but it does not cure the condition. It is said that the Tait operation stands the test of labor. That is true. I have never seen one give way, because there is really nothing to break, as the perinæum is not built up at all by the Tait operation. I remember one case in which there was a large-sized rectocele and cystocele. The cystocele was operated on by the ordinary oval denudation and the perinæum closed by the Tait operation. In three months the rectocele and cystocele returned larger than before. For ordinary cases of gaping vulva, where the integrity of the perinæum is not involved, the flap-splitting operation is a good one. It is easy to do. I have never seen it occupy more than five or six minutes. If, however, a good result is desired in an operation upon a ruptured perinæum with rectocele, the Tait method should never be employed. Probably the favor with which certain operators view Tait's method of operating upon a torn perinæum lies in the fact that it is the easiest of all the operations to perform.

DR. B. F. BAER :

I read in the *American Gynecological Journal* an article by a Western man of large experience in which the following statement occurs: "This (Tait's perineal) is one of the finest and best operations that Mr. Tait has given the profession." Now we hear a statement from a gentleman of equal experience which places this operation in a directly opposite position as to usefulness. I believe the true position to be that which does not follow any one special method of repairing the damages at the floor of the pelvis, for they all differ in character, degree, and time of existence. You cannot follow one single method exclusively in doing any operation. Laparotomy, for instance, varies with almost every case, especially after your finger passes within the abdominal or pelvic cavity. It may then prove to be the simplest or the most complicated condition. The same thing applies in reparation of the pelvic floor or any operation upon the vagina. The case may be one of simple gaping of the vulvar orifice or it may be one of long-standing procidentia with large uterus and hypertrophied vaginal walls. As a broad general principle, I believe that Mr. Emmet's views regarding the pathology of the injured

pelvic floor, as well as his method of denudation and coaptation for the particular condition which he describes, are correct; but his method of applying the sutures, that is, a double row, I do not think is the simplest or best. I, at least, can do better and simpler work by a different method of passing the sutures. I have never been able to get the same result from the double row of sutures which Dr. Emmet claims for it. There is always more or less gaping of the vulvar orifice. I pass a single row, and by means of only two or three sutures gain all that Dr. Emmet does with his double row. I begin by passing the needle deeply on the outer side of the denuded sulcus, somewhat as Emmet does for the purpose of grasping the fascia, emerge at the bottom of the sulcus, then again entering the needle on the rectal side it is brought out at the top of the opposite side of the sulcus. I then pick up the crest of the rectocele at the upper border of the denudation, and then pass down the inner side of the left sulcus and up on the outer side, making the entire sweep with one suture. This same process is repeated once or twice. When these sutures are drawn together they cause a coaptation of one side of each sulcus against the other, bringing the crest of the rectocele toward the centre and overcoming at the same time the gaping at the orifice.

Many of the cases requiring the operation on the posterior wall have also a cystocele, for the curing of which I make a circular denudation, placing a circular purse-string suture, after the method of Stoltz, which, when drawn together and tied, makes the most complete, and is the simplest, method of operating for this trouble. Now, when the rectocele is large, I sometimes reduce it by applying the circular denudation and purse-string suture above its crest, before making the Emmet denudation below, and have by this means aided in taking up the slack of the enlarged vaginal wall.

Where there is simply gaping of the vaginal orifice, and no cystocele and rectocele existing, the Tait operation gives good results. It gives something more than merely a skin perinæum, for it does crowd up a mass of tissue at a point where we locate the perineal body. Sometimes, where a rectocele exists, it may be reduced by the circular denudation and purse-string suture, after which

the Tait, instead of the Emmet operation, may be made at the orifice. I have not done the Tait operation often, because I have been satisfied with most of the results obtained by the other method. I say *some*, for to say that all are satisfactory would be an overstatement.

DR. M. PRICE :

I cannot well imagine how Dr. Baer's stitch is going to support the parts and prevent gaping. If I understand the stitch, the drag will be in the opposite direction from what Emmet intended, when he begins to tighten the stitch. Dr. Emmet aims at doing away with the rectocele by uniting the sulci. He does not much care whether the external sutures unite or not. There is no tension on the external sutures. The denudation is carried high up in each sulcus, and when the parts are brought together the posterior wall of the vagina is in contact with the anterior wall. Dr. Baer's stitch would draw the rectocele back into the posterior part of the vagina. It is nonsense to do any perineal operation with the idea that you are going to remove the cystocele. If you trust to cure the cystocele by curing the rectocele, you will fail in both. The cystocele will, by its continuous pressure, stretch the tissues and cause a return of the former condition. To overcome this Dr. Emmet makes his crutch operation with the anchor denudation. In front of the cervix he makes three denudations, one in the centre and one on either side, and these are united in front of the uterus. It is better to do the cystocele operation first, and subsequently the Emmet operation before the patient leaves the bed.

I was not aware that Tait applies a single skin suture. My impression is that the whole thing is done on the cut surface. While I do not believe in the operation, it should give the best results when done as Mr. Tait does it.

DR. J. M. BALDY :

In regard to the results of the Emmet operation, I should like to say that the after-results are almost perfect if the operation is done properly. Three weeks ago I had a patient come to me who had been operated on four years ago by Dr. Duncan Emmet, a son of the deviser of the operation. Examining that woman no one would have suspected

that there had been any laceration. There was almost a virginal vagina.

In regard to the fact that the external sutures amount to nothing in the Emmet operation, that is proved by a case in the hospital at present. The woman was an alcoholic and took ether badly. I did the Emmet operation. After the operation the patient began to present an irregular temperature, varying from 99° to 106°. I had done the operation with catgut, and concluded that the woman was septic. On examination I found that the external wound had been torn open by the syringe, and was gaping. I tore the whole thing down with my finger, with the idea that there was suppuration, and by doing so ruined a beautiful operation to no purpose. This irregular fever continued for ten days, but now for two weeks she has had a

perfectly normal temperature. The recovery began as soon as quinine was given. I think that I did not succeed in tearing down the sulci very much. The point to which I wish to call attention is that although the external part had been torn open, yet the pelvic floor was good. I propose etherising this woman and completing the operation.

Mr. Tait does claim not to pass the stitches through the skin, but I cannot bring the edges of the skin together unless the sutures are passed through skin surface. Every man who does Tait's operation says that it cannot be done in the way that Mr. Tait describes. The sutures must pass through the skin surfaces to bring the parts together. This, however, can make very little difference except as regards pain.

ELLISTON J. MORRIS.
Secretary.

ANNALS

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GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

ORIGINAL COMMUNICATIONS.

Observations upon Five Cases of Croupous Pneumonia in Children.

BY FREDERICK A. PACKARD, M.D.

THE following small series of cases were of rather more than ordinary interest to the writer for several reasons; and, while nothing new was shown by any of them, they illustrated so prominently some of the phenomena of the disease peculiar to its occurrence in children that they are deemed of sufficient interest to warrant a few remarks. The cases were all seen during the latter part of June and the early part of July, 1891, a season of the year wherein infra-rather than supra-diaphragmatic diseases are expected to occur. They were all of them cases of undoubted lobar pneumonia, a disease stated by some authors to be relatively infrequent in childhood as compared with the lobular variety. In regard to this point it might be said that but one case of the lobular form was seen out of six

pneumonias observed by the writer during the time mentioned. That this is the usual ratio of the two varieties can by no means be claimed, but the large preponderance of the lobar cases in this set could not fail to make an impression contrary to that generally entertained. None of the cases showed at first either of the symptoms popularly ascribed to inflammatory diseases of the chest—cough and expectoration. Consequently much doubt was manifestly felt by the parents when the disease was named. The symptoms, on the contrary, pointed more to cerebral or gastric disease than to any pulmonary condition.

Two of the following cases were seen in dispensary practice, three in private. Both of the dispensary cases had been previously seen by

other physicians and were diagnosed, according to the statement of the mothers, as "gastric fever." The other cases were seen rather earlier in their course, one of them having been seen in its incipency by a physician, hurriedly summoned, who also labelled the disease "gastric fever." The reason for the uniform diagnosis of gastric trouble in these three cases was evidently the presence of vomiting and pain, referred, apparently, to the epigastrium, the absence of cough and the classical physical signs of intrathoracic inflammation.

On June 13, 1891, V. C., a white child, aged 3 years, was brought to one of the dispensaries in which the writer was on duty, with a history of vomiting and pain in the abdomen of thirty-six hours' duration. She had been twice seen by a physician upon the day preceding her visit to the dispensary, and the mother was told that the child had "gastric fever." Some powders had been prescribed and the mother directed to apply mustard poultices to the abdomen.

There had been no previous illness, the pain and vomiting appearing suddenly and seemingly causelessly. Cough had been absent, and there had been no convulsions; but the child had had high fever from the onset. When seen at the dispensary she was lying on her mother's lap, breathing rapidly, with expanding *alæ nasi*, occasionally giving a little whimper, but never crying, although the facial expression was that of intense suffering. The respirations had the peculiar "catching" character and the reversal of the long pause so almost universally present in the disease under consideration.

Upon careful physical examination of the chest, nothing abnormal was discovered until the stethoscope was applied high up in the left axillary region. At that point there were heard marked dry tubular respiratory sounds. Over this and all other portions of the pulmonary regions of the chest, resonance was absolutely unimpaired. The case was not seen again, as the mother was informed of the serious nature of the disease, and was told to put her child to bed and summon a physician to see it at her house.

While this case was observed for but a short time at one visit, the writer does not doubt that the diagnosis of croupous pneumonia could have been made, with a fair degree of certainty, much earlier in its course, and that further development occurred until the apex was entirely involved.

Mamie K., white, *æt.* 15 months, was always perfectly healthy until June 18, 1891. During the evening of that day it was noticed that she had high fever. At about midnight she began to vomit, and soon had a violent general convulsion. A physician of the neighborhood was hurriedly summoned in my absence, and ordered that the child be plunged into a hot bath, that milk-diet only be allowed, that poultices of mustard and flour be applied to the abdomen, and that some powders be given every two hours. No more convulsions occurred.

When seen by me, early in the morning of June 19, she was found in practically the same condition as described in the preceding case, save that at no part of the chest could any abnormal physical signs be elicited.

The diagnosis of croupous pneumonia was made with some confidence from a consideration of several points. There was evidently much pain, yet the child had not cried to any extent, and merely whimpered when moved, although the face plainly showed that motion produced marked pain. Had the vomiting and pain been due to any infra-diaphragmatic condition, save only peritonitis, relief would doubtless have been sought in loud screams. The very high temperature and the absence of pleural friction almost certainly eliminated a simple pleurisy, while the reversal of the pauses and the catching inspiration would have been either absent or much less marked were pleurisy the cause of the symptoms. The child had, to a very marked degree, the still, seemingly awed manner that is commonly seen in pneumonia, as though the child appreciated the gravity of her complaint. Although, therefore, there were no physical signs of consolidation, the diagnosis of pneumonia was made with confidence to the parents, and with but little mental reservation to myself. Upon the next day the whole right lower lobe was found to present distinct and typical signs of croupous pneumonia, none of the classical features being absent. Under extremely simple treatment—care in clothing and exposure, diet, citrate of potassium internally, and jacket poultices externally—the symptoms rapidly subsided, while the physical signs disappeared so speedily that by June 22 there was nothing to be detected over the affected area save slight impairment of resonance, faintly tubular breathing and slight prolongation of the expiratory sound. On the night

of June 22, a sudden fall in the atmospheric temperature occurred; and, upon visiting the child the next day, I was told that she had again begun to vomit during the night. Her temperature, at the time of my visit, had again risen, and there were present the same rational symptoms as at first, while physical examination revealed a beginning pneumonia of the lower lobe of the left and previously healthy lung. Upon the next day the whole of this lobe was evidently completely solidified. By June 25 this area had also returned to the normal condition, save for a slight tubular character of the breath-sounds and for some impairment of dulness. Although of not an unusual character, this case was of interest chiefly from the fact that, upon a fresh onset of the exciting cause, the healthy side was attacked instead of the one already presumably damaged by the first onslaught. On the first attack, the process was probably central, a fact that may account for the entire absence of physical signs at the time of the first examination.

The third case was one of croupous pneumonia of the left lower lobe, presenting typical and well-developed signs of that condition.

She was $2\frac{1}{2}$ years of age, and was brought to the dispensary of the Episcopal Hospital on, if I remember rightly, July 17, 1891, having been ill for five, and "very ill" for four, days, a diagnosis of "gastric fever" having been made by the attending physician. In this child, also, vomiting and epigastric pain were prominent early symptoms, and I presume that no examination of the chest could have been made, as dulness over the whole

left base was so marked that the mother asked me why one side sounded so differently from the other when percussion was practised.

The two remaining cases need not be detailed, as their interest chiefly centres upon the prominence of gastric, and the slight development of pulmonary, symptoms. One of them presented, upon the first examination, no change upon percussion, and, upon auscultation, merely an area of tubular breathing, easily covered by the bell of the stethoscope; the other

showed well-marked physical signs over a larger area.

While, as stated at the beginning, these cases show nothing new or not already well recognized, they could not fail to impress the writer with two facts: the ready possibility of overlooking a pneumonia in children, even though at first the classical signs were absent; and the large preponderance of the cases of the lobar form observed in the time mentioned.

CLINICAL LECTURE.¹

BY EDWIN E. GRAHAM, M.D.,

Clinical Lecturer on Diseases of Children, and Chief Clinical Assistant of Medicine, in Jefferson Medical College.

GENTLEMEN: The first patient I shall present to you this morning is a child whose history is as follows:

G. M. G., aged 4 months, non-instrumental delivery, bottle-fed. Child at birth was fairly well developed; skin, however, rather dry, appearance dull, old-looking. Fretful and cries, especially during night. Snuffles appeared at age of two months. Emaciation steadily progressive since two months. Paternal history of syphilis.

Examining our little patient, we first notice that the evidences of malnutrition are marked. The face is withered and old-looking, the skin dry and scaly, the tissues wasted and flabby, the fontanelles much depressed. Examination of the chest shows rapid

and superficial breathing, and at the inferior and posterior portion of the lungs I can detect a few subcrepitant râles. The heart-sounds are rapid, but distinct. The posterior chain of cervical glands is enlarged, and we find in the anal and genital regions an indistinct eruption of irregularly-shaped and brownish-colored spots. The child has, during the past three days, suffered from slight vomiting and diarrhoea. The temperature this morning is 99.2° F. Our little patient is evidently suffering from inherited syphilis, although, before making a diagnosis in cases of a similar character, it is well for you to remember that progressive emaciation in children due to tuberculosis, improper food, gastro-intestinal disorders, or secondary diseases following acute

¹ Delivered February 6, 1892, in the hospital of the Jefferson Medical College.

affections, must be carefully excluded. Inherited syphilis, as it attacks the infant, presents a combination of the so-called secondary and tertiary stages of the disease, the primary stage being absent. The skin and mucous membranes invariably exhibit the character of secondary syphilis, and these external manifestations are often combined with others indicating serious lesions of the bones and internal organs. The disease may first show itself in the child at three different periods—before birth, at birth, or after birth.

If before birth, it occurs usually from the fifth to the seventh month of intrauterine life. The child dies, and is born prematurely. In fact, the disease is such a common cause of miscarriage that our suspicions should always be excited when labor has repeatedly occurred prematurely, and we should make inquiries as to the previous health of the parents, so that if syphilis exists we may, by the proper treatment of one or both, preserve the lives of succeeding children.

If at birth, the symptoms are usually very severe. The child, although born alive, is emaciated and looks shrivelled. He snuffles and cries hoarsely. A few hours after birth an eruption of pemphigus appears, situated principally on the palms of the hands and soles of the feet. These blisters become filled with a semi-purulent liquid and burst, leaving angry-looking sores. The liver is indurated. These cases are usually fatal. The symptoms, although appearing at birth, may not, however, be so marked as those described. The child may be fairly well nourished, the internal lesions may be absent, and the child recover.

If after birth, the child is born apparently healthy, he is plump, strong, and may present no symptoms of the disease. Sometimes, however, the face is rather old-looking, the skin inelastic, and the complexion dull. After a time, varying from two weeks to six or seven months, although rarely after the end of the third month, evident symptoms of the disease begin to be observed. Before this, however, is a symptom which has been little noticed by writers upon this subject, but which I have seldom found absent. This symptom is obstinate wakefulness at night. During the night the child is restless and fretful, cries almost unceasingly, and cannot be pacified. During the day he is more composed, but at night always restless. The crying is possibly excited by nocturnal pains in the bones similar to those which affect adults. One of the earliest symptoms to develop is snuffling; this is most marked when the child takes the breast, his difficulty of breathing through the nose being then quite apparent. Soon a thick muco-purulent, offensive discharge appears from the nostrils, due to mucous patches on the Schneiderian membrane. In fact, these mucous patches may even cause necrosis of the nasal bones, so that the nose, as it were, caves in, becomes flattened, and looks broader. Soon after the appearance of coryza an eruption appears, first about the perinæum and folds of the joints as in the axillæ; the eruption assuming any and every form of skin disease, usually, however, appearing as rusty-looking spots. Mucous patches are quite commonly found by the margin of the anus, at the commissures of the lips, about the genitals,

between the fingers and toes—*i.e.*, wherever the skin is delicate and moist. They are also, of course, found in the mouth.

The skin is dry, parched, scaly and fissured, and has a peculiar yellowish tinge. Falling of the hair, eyelashes and eyebrows is not uncommon. The cry is hoarse and high-pitched, its character being due to the extension of the mucous patches to the larynx. The fontanelles are usually widely open. The teeth are, contrary to what you might suppose, cut very early and with remarkable ease. It is not uncommon to see the front teeth appear while the body is still covered with the syphilitic rash. Disease of the bones is very common. It can be easily detected by gently grasping the bone and passing the hand downward along the shaft. If diseased, the lower end of the bone is felt to be abnormally thick. This sign is said to be always present in dead syphilitic children, whether stillborn or not, and is never confined to a single bone. Nodes may be present in the shafts of the bone. Enlargement of the posterior cervical glands is quite common, and syphilitic iritis may be present.

The general condition of the infant varies, not according to the severity of any particular symptom, but according to the intensity of the general cachexia. Occasionally, they are fairly plump, and although pale seem to suffer comparatively little from the effects of the disease. Usually, however, they appear wasted and feeble, and the face is wrinkled and shrivelled. Paralysis, more or less complete, of the upper extremities is occasionally present, without impairment of sensibility. It is, however, not a paralysis similar to infantile

palsy, such as I showed you at a previous clinic, being in this case due to an affection of the brachial plexus. A peculiar malformation of the teeth is sometimes found. This was described first by Hutchinson. It affects *only* the permanent teeth, and is usually limited to the upper incisors. These teeth are narrow and short, the edges being notched. Relapses are not uncommon—*i.e.*, a syphilitic child is treated until all symptoms disappear and, years after, tertiary manifestations develop.

The principal lesions are in the bones, mucous membranes and solid internal organs. I have already described to you the most common lesions as seen in the bones and mucous membranes. In the internal organs new fibroid growths appear, which may be diffused or circumscribed. In the lungs a syphilitic pneumonia and syphilitic phthisis may be present; the liver is hypertrophied and indurated; the spleen is enlarged, and interstitial changes are found in the heart and kidneys. As a rule, gentlemen, to which there are few exceptions, the longer the time which elapses between the birth of a child and the appearance of the first symptoms, the greater is the likelihood of his recovery, the prognosis being serious, as a rule, in proportion to the degree to which nutrition is interfered with.

In the treatment of our cases we have two main objects: first to counteract the cachexia; secondly, to improve the general nutrition of the body. The best drug is, of course, mercury. The child, in *mild* cases, may be treated through the mother; but, if severe symptoms are present, and it is important to bring the child

as rapidly as possible under the influence of mercury; you will obtain better results by giving your remedy directly to the child. You may use hydrarg. cum creta, or, what I prefer, the bichloride in solution. If the internal treatment causes any gastric or intestinal disorder, the ointment of mercury may be tried. We will order for this child a prescription which will contain hydrarg. chlor. cor., gr. i; alcohol, fʒij; aquæ, fʒvi, and direct that the child be given eight drops well diluted in water, three times daily, after feeding, the dose to be gradually increased. Specific directions will also be given the mother in regard to the child's bathing, clothing and diet.

Our next patient, gentlemen, is a boy, H. C., aged 9 years, whose history is as follows: Pertussis at age of 2 years, measles at age of 5 years. Four months ago child confined in room two weeks with mild case of scarlet fever, accompanied by puffiness of eyelids and slight swelling of feet. Two and one-half months ago swelling of face and feet returned, lasting about ten days, disappearing under treatment, and again reappearing twelve days since and still persists. The pulse this morning is 106, temperature 99° F.

Upon physical examination by inspection, we first notice that he is well formed, but pale. The whole face is swollen, especially so about the eyelids, which, as you see, are quite œdematous. The abdomen is large, but contains little or no fluid; the legs are distinctly swollen and pit on pressure. Upon auscultation over the anterior portion of the chest, we notice a few small, moist râles, breathing slightly harsh; posteriorly we ob-

tain the same signs. The heart is overacting, but there is no murmur. Pulmonary resonance is normal; the area of liver-dulness is not increased.

We have here, then, gentlemen, a boy who, upon three different occasions, has been dropsical. This dropsy has, in the first two attacks, disappeared rapidly, and is now disappearing under treatment. Have we omitted any important point in our examination? Undoubtedly we have. We have not as yet considered the examination of the urine. The father of the patient informs me that at one time this child passed only about eight ounces of urine in twenty-four hours, the color at that time being a deep-red, and often being passed in quantities not larger than a tablespoonful. The urine examined this morning is clear, acid, specific gravity 1026; contains albumin in considerable quantity, epithelial casts and a few blood corpuscles. Acute Bright's disease, or, to give it the proper name, acute parenchymatous nephritis, or acute tubal nephritis, as seen in children, usually follows one of the exanthematous diseases, especially scarlet fever. It is present, not uncommonly, during an attack of diphtheria, or it may follow exposure to cold and damp.

The disease, as its name implies, usually comes on suddenly, with fever, headache, dyspnœa, nausea and vomiting. The skin is harsh and dry, the pulse quick, tense and full; dropsy of face, hands and feet soon appears; disorders of vision, and even convulsions, may be present, with, perhaps, cough, usually most marked when there is great œdema. Micturition is frequent, and the urine contains large amounts of albumin, epithelial cells,

free blood and epithelial casts. The appearance of the urine varies with the stage of the disease. In the most acute cases the urine is red, smoky, scanty; may be passed drop by drop, is full of albumin, and contains large numbers of blood corpuscles and epithelial casts. If improvement occurs the urine is passed in larger quantities, becomes lighter in color, the blood and casts gradually disappear, and the amount of albumin slowly lessens.

Acute Bright's disease, under proper treatment, gentlemen, usually ends favorably, especially in children. In regard to the treatment of this case, we can derive at least one valuable point from its history. The child has had at least two distinct relapses, and why? undoubtedly because he has not been confined sufficiently long in bed. Both of these relapses were, without doubt, caused by exposure to some slight draught or damp. In fact, the main reason why this child was brought to the hospital was to keep him in bed. Rest in bed is, therefore,

our first indication. The next thought which naturally occurs to our mind is to lessen, if possible, the work which must be done by these inflamed kidneys. We accomplish this, to a certain extent, by three means: acting on the skin, acting on the bowels, and keeping the patient on a liquid diet, the best nourishment being milk. Mild diaphoretics, as liq. potass. citrat., liq. ammon. acetat.; powerful ones, as vapor baths, hot wet-pack, or even pilocarpine, if necessary. If urgent symptoms present themselves, elaterium, or salines in a saturated solution, may be given.

We will advise, then, that this child be kept in bed, given only milk as nourishment, small doses of salines to keep the bowels well opened, and four times daily he will receive 3j of a mixture which will contain in each dose potass. acetat., gr. v; inf. dig., f3j. He will also be allowed to drink freely of Poland water, if he so desires.

SOCIETY PROCEEDINGS.

New York Academy of Medicine—Section in Pædiatrics.

DR. WM. P. NORTHRUP, CHAIRMAN.

Meeting of February 11, 1892.

THE meeting was opened by the presentation of a case of spina bifida by Dr. A. JACOBI. The child was 2 months of age and had been born at full term. The tumor was growing rapidly and the walls becoming thin

and light-colored over the central portion. Without operation the mass would certainly grow larger and burst, and the child would die. The child was healthy and well, but the sutures and the fontanelles were abnormally large,

and marked talipes valgus was also present.

Dr. M. PUTNAM-JACOBI demonstrated, by means of a sheep's lung, the fact that when the lung is collapsed we get tympanitic resonance on percussion, but when inflated, even extremely, normal or exaggerated pulmonary resonance.

Dr. J. E. WINTERS read a paper on

THE BEST APPARATUS AND BEST DISINFECTANT FOR USE IN MOUTH AND NOSE IN DIPHTHERIA.

It was assumed at the outset that the disease is caused by the Klebs-Löffler bacillus; that it is primarily a local disease, the microbe elaborating in the exudate a poison which is absorbed and carried into the circulation, the germ itself not being found in the blood or tissues. A point of vast importance in treatment is the fact that the specific germ on a perfectly healthy membrane does not provoke diphtheria. The primary indication, then, is not only to cleanse and disinfect the parts, but to destroy the germs *in situ*. By properly conducted local treatment all septic products are washed away and putrefaction is avoided. The activity of the Klebs-Löffler bacillus is impaired by even weak solutions of carbolic or boracic acids. The practical deduction from this is that at the outset we should attack the exudate or culture soil in order to prevent the microbic products from producing constitutional results. It is never safe, however, to employ means that will irritate the surrounding parts, for fresh points of infection are thus made. All depressing means must also be avoided. Thus, it is impossible to swab the throat without serious injury to the patient.

The only means of successfully disinfecting the throat and preventing sepsis is by irrigation. For this purpose the child should be placed on the side of the crib and a rubber sheet arranged to catch the drippings, but he should under no circumstance be lifted from the horizontal position. If a Davidson syringe be used the cleansing will be more complete, and will meet with less resistance than with any other apparatus. The irrigation should be done through the nostrils, for they cannot be tightly closed like the mouth, and with the first flow of fluid from the nose into the throat the mouth is opened, and everything is discharged through the nostrils and mouth. The naso-pharynx is involved in every case of serious diphtheria, and is thoroughly cleansed by this method. It is occasionally necessary to syringe through the mouth. In this case the tip should be removed and one tube passed along the inner side of the cheek, behind the last molar, to the pharynx.

In diphtheria of the nose frequent irrigation is of especial importance. In ordinary cases irrigation every two hours is sufficient; in severe cases it must be practised every hour, day and night. For this irrigation nothing has proved so satisfactory as a ten per cent. solution of peroxide of hydrogen, or a saturated solution of boracic acid. The passages must be thoroughly cleaned at each washing, and one-half to one pint of solution will be required.

In the local treatment of diphtheria are also included medicated steam from a croup kettle, the inhalation of sulphurous acid gas through the burning of sulphur candles, and in extreme

cases the burning of tar under a tent. For medicating the water in the croup kettle, add to one pint of water one ounce of spirits of turpentine and two drachms of oil of eucalyptus. In the use of the kettle plenty of rubber tubing is required, and a gas stove is the best means of generating the heat.

Dr. H. D. CHAPIN read a paper on

QUARANTINE AND DISINFECTION IN
LIMITED APARTMENTS IN CASES OF
DIPHTHERIA.

In tenement houses the end room should be selected, as it is more isolated and can be better ventilated. The furniture should be removed as far as possible, and the child placed on a cheap cot, instead of the bed or sofa. The mother, if she must also attend the rest of the family, should wear a wrapper, which can be removed upon leaving the room. The degree of contagion can probably be modified by the generation of steam impregnated with antiseptics. The area of contagion, when ventilation is good, is small, probably but a few feet. If the germs can all be destroyed *in situ* there will be no contagion.

Old clothes or pieces of cheese-cloth should be used about the patient, and burned as soon as soiled. All articles of bedding should be shaken on the roof and exposed for a considerable time to sunlight and air, the two most powerful antiseptics at our command. The walls should be washed down with a sublimate solution, 1 to 1000, and the same should be used in sinks and closets. The mistake is frequently made of using too weak a solution. Papered walls may be cleaned with stale bread-crumbs. The burning of sulphur, while it may not be of great efficacy,

is undoubtedly of some value. It leads to thorough subsequent ventilation at least. The throat and nasal passages of the other children of the family should be frequently sprayed with mild antiseptic solutions.

Dr. L. EMMETT HOLT read a paper upon

FEEDING IN DIPHTHERIA; METHODS OF
FORCED FEEDING.

In a disease like diphtheria, where the principal cause of death is asthenia or exhaustion, no question can exceed in importance that of nutrition and stimulation. The most common error in this direction is overfeeding and overstimulation during the first few days. It too often happens that when the critical period arrives the overburdened stomach refuses to do its work. The subject may be considered under three heads: (1) Character of food and stimulants; (2) frequency of administration; (3) forced feeding.

As to character of food, little need be said, except to condemn two articles frequently allowed—ice cream and jellies, which interfere with the taking of more valuable food. The main reliance must be upon milk diluted according to the age of the child. Next to milk, beef broth, mutton broth, expressed beef juice, soft-boiled eggs, milk toast, wine whey, and oatmeal or barley gruel. Junket, with a little wine added, and kumiss, when the child will take it, are valuable additions to the list.

In regard to stimulants, brandy is best, but we must be guided by the child's whims and give what he will take best. It is a mistake to add the stimulants to the food, for the child may soon reject both.

Experiments with stomach washing

show that the stomach is rarely empty sooner than two hours after a meal. It is a safe rule to never give food requiring digestion oftener than this. Stimulants and pre-digested food may be allowed at shorter intervals. The quantity of food given should be somewhat less than the child would take in health. It is best, the author believes, not to begin stimulants until they are indicated by the pulse or prostration, but they should then be pushed until the desired effect is produced, the only limit in many cases being the tolerance of the stomach. Unlike food, they should be given in frequently repeated doses. A careful record of the exact amount of food taken and retained should always be kept, that we may know where we stand.

It sometimes happens that the child absolutely refuses all nourishment and stimulants. Coaxing, threats and commands are alike futile. Efforts to compel the child to take milk in teaspoonful doses result in the wasting of an immense amount of strength while little or nothing is accomplished. It is at this juncture that the question of forced feeding arises. Rectal feeding in young children, owing to irritability of the sphincter, is almost impossible. Much more efficacious and with far less disturbance to the patient is forced feeding by the mouth or nose. The difficulties are surprisingly small. The ordinary apparatus for stomach washing is all that is required, the method of procedure being the same as in that process. Unless there is much resistance the mouth is to be chosen. A trained nurse can easily be taught to do the feeding. Completely peptonized milk is to be pre-

ferred. The operation should be repeated once in four hours. In this way a proper amount of nutriment can be introduced with far less worry and disturbance than by the spoon method.

The operation was demonstrated upon a child of ten months, a sufficient amount of milk being introduced in about ten seconds.

Dr. A. JACOBI spoke upon the subject of

CONSTITUTIONAL TREATMENT IN DIPHTHERIA.

He has been convinced of the value of bichloride of mercury in all forms of the disease, especially the laryngeal. He gives it in large doses; a child of six months will take a quarter of a grain a day with no untoward symptoms. Diarrhœa is rare and is quickly checked by a few drops of paregoric. Every effort should be made to overcome the sepsis and keep the child alive. Stimulants should not be delayed until signs of heart failure appear, for when that condition has once developed the patient is almost certainly lost. Very large doses are sometimes required, and they should be increased until an effect is produced. The doses of digitalis, camphor and alcohol, as stated in the text-books, are no guide whatever. If rejected by the stomach they should be given hypodermically. One part of camphor dissolved in four parts of sweet almond oil may be given hypodermically with but slight local disturbance.

Dr. AUGUST SEIBERT demonstrated his method of

SUBMEMBRANEOUS ANTISEPTIC IN- JECTIONS.

If the Klebs-Lœffler bacillus gener-

ates its poison within and underneath the pseudo-membrane, that is the place to attack it. He has therefore devised an instrument consisting of a number of hypodermic points set closely together on a small disk, by which an antiseptic may be injected beneath the membrane. As an antiseptic he employs very strong chlorine water. The method has now been in use eighteen months, with strikingly satisfactory results. It is designed to supplement, not to displace, other local treatment, the injections being made but once a day, one or two as a rule being sufficient.

Dr. BEVERLEY ROBINSON asked what course fluid would take when passed through the nose by a Davidson syringe.

Dr. WINTERS replied that in a young child the mouth is almost invariably opened, and some fluid passes out in that direction, clearing the throat.

Dr. VINEBERG approved of sulphurous acid as produced by the burning of sulphur, and referred to morphia as a valuable cardiac stimulant.

Dr. J. LEWIS SMITH said that he used a stronger solution of peroxide of hydrogen than that proposed by Dr. Winters. Stronger solutions can be used in the throat than in the nose.

Dr. STOWELL said that the strength

of the solution must be graded to suit the case. Peroxide of hydrogen, if too strong, will cause irritation.

Dr. HOLT said that in a personal trial he had found a ten per cent. solution too strong for comfort.

Dr. C. W. ALLEN described a screen of plain glass which he had seen used in Germany. It is held before the face of the patient during the examination of the throat. It does not obstruct the view and is an admirable protection to the physician if the patient coughs.

Dr. WINTERS and Dr. SMITH both reported instances in which physicians had carried diphtheria into their own families, probably by membrane which had lodged upon their clothing.

Dr. SEIBERT believed that the disease was often propagated by carpets and furniture. He disinfects his hands, face and beard with Labeur-aque's solution.

Dr. BERG referred to the frequency with which the disease is contracted at school.

Dr. FISCHER had made a series of examinations in tenement houses and had found the specific bacillus in the air in a number of instances. In one house four cases developed on different floors along the same line of pipes.

ABSTRACTS FROM CURRENT LITERATURE.

Vulvitis and Vulvo-vaginitis in Young Girls.

COMBY has seen 150 cases of vulvitis and vulvo-vaginitis in girls varying in age from a few months to thirteen years. By far the most frequent cause is contagion, not produced so frequently as is usually stated by attempted coitus, but by the child sleeping with a person suffering from gonorrhœa, or by using the same articles of toilet. The writer states that he has known cases to occur from the child being bathed in the water of a bath previously used by a person having gonorrhœa. Mechanical irritation, such as that caused by masturbation and oxyluria, is rarely the cause, while one of the eruptive fevers, typhoid, eczema or impetigo, may originate the trouble.

Prophylactic measures consist in avoidance of contact with those suf-

fering from gonorrhœa, and, in institutions, thorough cleanliness in regard to urinals, towels, etc. There is both an acute and chronic variety, the former yielding readily to treatment, while the latter requires vigorous measures. The treatment consists in washing the parts two or three times daily with a bichloride solution of the strength of 1 to 2,000, or of acid boracic solution 1 to 25, with the after-application of powdered salol. Sulphur baths are to be used three or four times weekly. In the case of vaginitis, antiseptic crayons, $\frac{1}{8}$ -inch in diameter, consisting of cocoa-butter, 15 grains, and salol, $1\frac{1}{2}$ grains, are to be introduced into the opening in the hymen every two or three days.

—*Rev. Mensuelle des Maladies de l'enfance*, January, 1892.

Growing Fever.

BARBILLION has written a long article on the so-called growing fever of children. His conclusions are that the fever of growth no more exists than does a fever of obesity or of senility. The symptoms which have been grouped under this head are due

to a great variety of causes, such as are seen in ephemeral fever, stomach troubles, acute osteomyelitis and other pathological lesions.—*Rev. Mensuelle des Maladies de l'enfance*, January, 1892.

Death after Vaccination.

A CASE is reported in *The Lancet* for January 30, 1892, of an eight-months' child, weighing when born four pounds and three ounces, which was vaccinated eight days after birth, and died some thirteen days later.

Cold cream had been applied to the arm by the mother, and the sores had not healed. There was a slight lung affection found at the post-mortem, but death was undoubtedly accelerated by the vaccination.

Congenital Baldness and Pemphigus.

BAR (*Arch. de Tocol. et d'Obstet.*, December, 1891) has had a case of a child born with circular patches of baldness on the hairy scalp and a bulla of the character of pemphigus on the right hand. The suggestion is made that the bald spot may be

pemphigus in its late stage, rarely seen, however, after birth, on the head. There was talipes, and the pregnancy was rendered more difficult by hydramnios. A syphilitic history could not be elicited.—*British Medical Journal*, February 6, 1892.

Epidemic of Contagious Porriigo in Infants.

JONATHAN HUTCHINSON gives an interesting account of an epidemic of contagious porriigo (*impetigo contagiosa*) occurring in infants born in the maternity ward of St. Pancras Workhouse, England. The starting of the epidemic seems to have been due to vaccination, but afterward no connection could be traced with the vaccine virus. The eruption was bulbous, non-symmetrical, easily curable, of a local character, and with but

little constitutional disturbance. It was decided that the wards should be closed for a month, and every possible means of disinfection should be employed. This was done; but on again opening the wards, after several children had been born and discharged healthy, the eruption again broke out. Several of the mothers contracted the disease, and it appeared on them as an impetiginoid eczema.—*Archives of Surgery*, January, 1892.

Craniectomy.

PRENGRUEBER (*Sém. Méd.*, January 27, 1892) has successfully operated on a boy, aged 9, suffering from simple idiocy with microcephalus. The opening, 11 c.m. in length by 2 c.m. wide, was made on the left side of the skull in the neighborhood of the left fronto-parietal suture. At this situation there was an exostosis both on the inner and external wall, the portion on the inside compressing the brain. Improvement was noted immediately after recovery from the anæsthetic, as his general appearance

was better, his judgment increased, and his speech was more intelligible. On the next day the dribbling of saliva had ceased, and he was able to learn to blow his nose, a feat he had not accomplished before. He was soon able to play with his toys, and was much cleaner in his personal habits. Prengrueber considers that months and years must elapse before definite statements can be made in regard to permanent improvement.—*British Medical Journal*, February 6, 1892.

Retro-pharyngeal Abscess in Infancy, and Its Treatment.

BILTON POLLARD has collected four cases (three in his own practice) of retro-pharyngeal abscesses in children varying in age from seven months to two years and one month, all ending in recovery. In each case the abscess had no relation to spinal caries, and was evidently local in character. The author is of the opinion that the tonsils are rarely, if ever, the seat of the disease in children of this age. As soon as the abscess is diagnosed it should be opened, and two methods are practicable: either internal or external. The first is the more tempting; but on account of the fact that it cannot be properly drained, and the opening may close and allow the pus to again accumulate, the external excision, as is recommended by Chiene in chronic retro-pharyngeal abscess depending on spinal caries, is preferably used.

The operation was done as follows: An incision in the posterior triangle about one inch long and about one inch below the mastoid process was made along the posterior border of the sterno-cleido-mastoid muscle. When the fascia covering the muscles is reached, a cautious dissection with blunt instruments is made behind the deep vessels of the neck, until a finger placed in the wound almost met another placed in the pharynx. A director guided by the finger was then passed into the abscess, and the opening enlarged by passing a pair of dressing forceps into it, and forcibly separating the blades. A drainage tube is inserted, and care is to be taken that it does not slip out, as it did in one of the author's cases, and the pus again accumulate.—*The Lancet*, February 13, 1892.

Hæmorrhages in the Newborn.

Townsend—*Epitome of Medicine*, September, 1891

HÆMORRHAGE in the newborn is in nearly all cases an acute transitory affection, beginning within the first week or ten days of life, and lasting from one to six days.

The ætiology of this form is perhaps best explained by the infectious theory.

In very exceptional cases the disease is due to true hæmophilia as it is seen in older children and in adults. In a small number of cases it is one of the symptoms of syphilis or of septicæmia.

The mortality from all forms is about 75 per cent.

Treatment should be guided by the knowledge of the transitory and perhaps infectious character of the affection as it is seen in the majority of cases.

Bearing in mind the brief course and self-limited character of the disease in the majority of cases, we should make every effort to control hæmorrhage and to sustain the vital powers. External bleeding from scratches or from the umbilical wound

can best be checked by properly-applied pressure; and although compresses for this purpose often fail, digital pressure, if intelligently directed and persisted in, is almost always successful. Instances are on record of devoted mothers and nurses, who, by holding their fingers pressed for hours to the umbilicus, have saved the infant's life. Styptics are generally unsatisfactory; and deep suturing of the umbilical wound, although in some cases successful, in others only adds a fresh source for hæmorrhage from the stitch-holes.

The value of astringents, of ergot, or of mineral acids, for internal hæmorrhage, are of somewhat doubt-

ful value. Alcohol, by increasing the power of the heart, would theoretically increase the bleeding; but, if we accept the belief in the infectious nature of the disease, it would seem in many instances to be indicated. Warmth to the extremities, perfect quietude and freedom from motion, and most careful and persistent feeding from spoon or dropper with milk drawn from the breast of the mother or wet-nurse, might tide over many otherwise fatal cases through the brief period of this disease. Antiseptic treatment of the cord would be indicated for prophylaxis. — *Boston Med. and Surg. Jour.*

On the Variations in the Death-rate of Measles in England.

ALEX. B. MACDOWALL has prepared two charts, one of which shows the death-rate of measles in London and in England and Wales for the last forty years, in periods of five years each, and the other illustrates the relative humidity during the same period. The curve for measles reveals a curious fluctuation in the death-rate. At about twenty years' interval in the case of London (say in 1843, 1864 and 1883), the maxima

seems to have been reached, while the minima appears in 1853 and 1869. In comparing the humidity curve it will be seen that the London death-rate of measles lags somewhat behind the curve of the humidity. That there is a direct relationship existing between them cannot be doubted by a careful comparison of the two curves in the two charts. — *The Lancet*, January 23, 1892.

PÆDIATRIC THERAPEUTICS.

INCONTINENCE OF URINE.

For *incontinence of urine* in children, due to exposure to cold, Prof. Hare recommends the following treatment:

Where the urine is high-colored and concentrated, and the child has fever, give—

R. Tinct. aconit., gtt. xij to xxiv.
Spirit. ætheris nitrosi, f 3 ij to iv.
Liq. potass. citratis, ad f 3 vj. M.

Sig.—3 ii every three hours.

After the urine has become more dilute, belladonna can be given with advantage, to allay the irritation and spasm of the bladder.

Or when the incontinence is due to paralysis of the bladder, give—

R. Extract. nucis vomicæ, gr. ij.
Acid. arseniosi, gr. ½. M.

Fiant pil. xx.

Sig.—One pill three times a day.—*Coll. and Clin. Record.*

SEAT-WORMS.

Success in the treatment of cases of seat-worms depends upon the prolonged and constant use of a vermifuge or some active vermicide. The worms are generally attacked by means of injections, suppositories or ointments. Of the injections, a favorite prescription is a solution of common salt in the proportion of one to five. Sometimes sugar and water may be used, and an infusion of absinthium is employed by some French practitioners. Still others employ simply cold water. It is said that West and Barthez recommended astringent injections composed of the perchloride of iron and lime-water, as follows:

R. Lime-water, f 3 iv.
Perchloride of iron, gtt. x. M.

Rosbach used, with excellent results, the following:

R. Naphthaline, gr. xv.
Olive oil, f 3 iss. M.

Trousseau is said to employ the following suppositories:

R. Hydrarg. chlorid. mit., 3 i.
Vaseline, 3 iij. M.

When the worms inhabit the higher portions of the rectum they will probably resist all therapeutic measures unless they be attacked through the stomach. Under these

circumstances it may be well to employ calomel and santonin, of each one-half grain, which is to be administered early in the morning in order that the calomel may act by evening. This dose is the proper one for a child of two to three years.—*Revue Générale de Clinique et de Therapeutique*.—*Med. News*.

PERTUSSIS.

Dr. Hallet says that under the influence of ozone inhalations, lasting a quarter of an hour each day, the number of attacks diminishes, the general condition improves, and the appetite returns in a few days. Dr. Chibret claims that by sprinkling powdered iodoform over the pillow on which the child sleeps, the attacks of coughing are quickly arrested. Dr. Galvagno employs the following formula:

R. Resorcin,
Antipyrin, āā gr. xv.
Acid. hydrochloric, gtt. x.
Syr. simp., f 3 j.
Aquæ dest., f 3 iij. M.

Sig.—Three to five teaspoonfuls daily.

The average duration of cases thus treated does not exceed fifteen days. Dr. Noevius advises an infusion of thyme (100 to 700 parts water), to which are added fifty parts of syrup of marshmallow, and of this from a teaspoonful to a dessertspoonful is given eight or ten times a day, according to the age of the child.—*Bul. Gen. de Therapeutique*, November, 1891.

Ungar, after six years' experience with quinine in the treatment of whooping-cough, is convinced that this remedy will moderate the violence and shorten the duration of this affection. Failures heretofore are due to the administration of too small doses. One and a half grains for every year of age up to four should be given three times daily, and the drug continued in small doses for several days after the paroxysms cease. He prefers the hydrochlorate, administered to young children in aqueous solution, with a few drops of muriatic acid, and flavored with raspberry syrup. Capsules may be given to older children, and should always be followed by a draught of an acidulated solution.—*Wiener Med. Wochen.*, 1891, No. 18.

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ORIGINAL COMMUNICATIONS.

Fourth Report on the Progress of Obstetrics and Gynæcology.

BY DR. WINTER,

*Instructor and Chief Assistant at the Royal University Clinic for Women
in Berlin.*

THE operative treatment of extra-uterine pregnancy has been greatly improved in recent years. The specimens which have been obtained by operation have been subjected to careful anatomical study, so that progress of no small importance has been made in regard to ætiology and anatomy. The most valuable recent works are those of Olshausen, Schauta, Zweifel and Wyder; I will present the most important points which they have brought forward. Schauta has studied the literature of extrauterine pregnancy very thoroughly and has collected the statistics of all the cases which he can find, embracing the years from 1876 to 1890, and comprising 626 cases, exclusive of Schauta's own cases, which he presents more at length in that

part of his work which gives the history of individual cases. Of the 626 cases 369 recovered and 257 died; the mortality, therefore, was 41 per cent. This was distributed as follows: In the first half of pregnancy 381 cases, 218 recoveries, 163 deaths; in the second half of pregnancy 93 cases, 40 recoveries, 53 deaths; after the normal term of pregnancy 152 cases, 111 recoveries, 41 deaths; in 241 cases the course of the affection was left entirely to nature, and of these 75 recovered, 166 died, the mortality thus being 66 per cent.; such cases, therefore, in the first half of pregnancy, have a much more unfavorable prognosis than that of extrauterine pregnancy in general, which has a mortality of 41 per cent., from which the conclusion may be drawn that

the prognosis is better for those cases which are operated upon.

The most frequent spontaneous termination of extrauterine pregnancy in the early months was rupture and hæmorrhage into the general abdominal cavity; this occurred 128 times, with 121 deaths; the prognosis in such cases is, therefore, extremely gloomy. 22 times rupture occurred with formation of hæmatocele; of these cases 8 died. In the second half of pregnancy death was caused most frequently by peritonitis, in consequence of decomposition of the foetal sac after death of the foetus. After the normal end of pregnancy the most frequent termination in cases which were left to nature was, perforation of the foetal sac into the intestine, vagina or bladder, or through the abdominal wall; this most frequently occurred in the course of one or two years, but was delayed in some cases much longer, even up to ten years.

In regard to the ætiology, the opinion generally prevails that the attachment of the ovum to the tube occurs when impediments of any kind prevent its entrance into the uterus.

Among such causes are, loss of the cilia, stenosis, inflection and twisting of the tube; the formation of the polyps in the tubal mucous membrane, is also suggested by Wyder as a cause, while Ahlfeld considers these growths to be local hypertrophies of the tubal mucous membrane, dependent upon pregnancy, and similar to the polypus endometritis of the decidua.

Wyder, to be sure, has already demonstrated that the structure of these polyps is purely fibrous and not

decidual, and Olshausen was able, in the case of the three polyps, which had even broken through the wall of the tube, to make it seem extremely probable, by showing their purely fibrous structure, that they had already existed before pregnancy and had been the cause of the implantation of the ovum in the tube.

The question as to whether true abdominal pregnancy occurs is not yet absolutely decided. Schröder suspected, and Veit, Leitzmann and Werth attempted to demonstrate, that all extrauterine pregnancies, at least with very few exceptions, originated in the tube, and that ovarian pregnancies only existed in rare cases. Among the large number of histories of cases contained in the works mentioned above, there are two of abdominal pregnancy. Zweifel operated on a case of ectopic gestation with a living child during the fifth month and lost the patient from peritonitis. The foetal sac was carefully examined microscopically: it lay on the right of the uterus. The tube was separate from the foetal sac except that its abdominal end was closely attached to the sac, so that the fimbria was spread over it and closely adherent to it. The muscular tissue of the tube was spread out like a fan in the foetal sac; no transition of the lumen of the tube into the latter could be found anywhere. In the tube there was pus. The ovary, also, could not have been the point of origin of the pregnancy; it lay in the fold between the uterus and the foetal sac, and had no connection with the latter. In the wall of the sac high cylindrical cells were found, which corresponded to the epithelium of the tube; therefore Zweifel assumes that the ovum at-

tached itself to the fimbria ovarica, or to the infundibulo-ovarian fold, both of which structures have ciliated cylinder epithelium, and that from there it grew between the two leaves of the broad ligament. The placenta, however, was inserted at a considerable distance from the sac, being attached to the rectum and the neighboring parts of the pelvic connective tissue. In the neighborhood of this Zweifel could show large giant cells, which he regarded as peritoneal endothelia, which had been transformed into decidua.

The second case of abdominal pregnancy was observed by Wyder; the fœtus lay free in the abdominal cavity; the placenta, without any envelopes, was attached to the posterior surface of the broad ligament; the ovary of this side was not found. The uterus and both tubes were completely free; therefore it must have been an abdominal, or an ovarian, pregnancy.

A. Martin observed a case of typical ovarian pregnancy, which was carried for nineteen years. The patient presented herself with carcinoma of the cervix, and by an extremely fortunate operation the skilful surgeon succeeded in removing the uterus, together with the calcified sac, by means of laparotomy.

Treatment.—In recent years the treatment of extrauterine pregnancy has become entirely surgical. Killing the fœtus by electricity has not been accepted at all in Germany. Injections of morphine have only been employed, in any considerable number of cases, by Winckel, who has treated seven cases in this way, usually by injecting through the abdominal wall; two of these patients died

and five recovered. In the early months, if the fœtal sac has not yet ruptured and the ovum is living, all operators are agreed that the sac should be extirpated. If, on the other hand, the death of the ovum seems probable, as indicated by the expulsion of decidua, protracted hæmorrhages, hardening of the tube and diminution of the size of the fœtal sac, there is a division of opinion as to what should be done. Martin and Veit recommend the extirpation of the fœtal sac in these cases also, supporting their opinion by a series of cases where, after such symptoms, rupture of the sac and fatal hæmorrhage occurred. Other surgeons use expectant treatment for these cases. Veit deserves the most credit for establishing the operative treatment for extrauterine pregnancy, by extirpation of the fœtal sac. He operated 11 times in the year 1890; in 2 cases the ovum was living, in 9 it was dead; all the patients recovered. If the sac is ruptured and hæmorrhage into the abdominal cavity has taken place, it is much more difficult to decide what course is indicated.

Schauta recommends operation even under such circumstances, basing his opinion on his statistics:

Rupture, with hæmorrhage in the abdominal cavity, without operation: 115 died and 7 recovered.

Rupture, with hæmorrhage into the free abdominal cavity, with laparotomy: 19 died, 102 recovered.

These numbers are inexact, since in the cases which terminated favorably the diagnosis of extrauterine pregnancy was not always positive; of the nineteen fatal cases only six deaths were due to the operation, three on account of hæmorrhage, one

from ileus and two from sepsis, while twelve women died only because the operation was delayed too long. The prognosis, as to controlling the hæmorrhage by laparotomy, is therefore very favorable; in many cases the patients were saved in spite of the most extreme anæmia. Usually there is sufficient time to make suitable preparation for laparotomy, for although in one case death occurred within two hours of the rupture, yet twice it was after the lapse of eight hours, three times after twelve hours, twice after fourteen hours, once after twenty hours, and several times even later. To wait for formation of a hæmatocele when there is internal bleeding is a very unsafe matter, because it depends on the presence of previously existing adhesions in Douglas' space. Olshausen does not recommend laparotomy for internal hæmorrhage, on general principles in every case, but he would make it depend on the course of events in each individual patient. In cases of laparotomy for internal hæmorrhage Zweifel gives warning against leaving the blood behind in the abdominal cavity, as several operators have proposed to do with the idea that by absorption it would have the effect of auto-transfusion, because, as he points out, it would very easily furnish nourishment for micro-organisms. Instead of this he recommends subcutaneous infusion of a six per cent. sterilized solution of common salt, of which in one case he introduced 1,200 cubic centimetres (almost three pints) within three-quarters of an hour. Wyder recommends this procedure before the laparotomy, especially in cases where collapse during operation is apprehended.

The treatment of hæmatocele is always expectant; puncture or incision is only permissible when the blood decomposes or when there are violent symptoms caused by pressure. Zweifel alone uses active measures; he incises the vaginal mucous membrane over the hæmatocele with the Pacquelin cautery, opens the sac with a fistula knife, introduces two fingers, and cleans out all the clots carefully, then the cavity is washed out thoroughly with boiled water so as to remove the smallest remnants of the clots. The empty sac is tamponed with iodoform gauze. If no fever arises, the gauze is removed in six or seven days, and then two rubber drains with cross pieces are introduced and sewed into the vaginal incision. Through these the sac is washed out until it becomes obliterated. When on such an evacuation of the hæmatocele adjoining spaces are found which are filled with blood, Zweifel recommends that they be removed by laparotomy, as otherwise nutrient material for septic germs remains behind. He holds that it is positively necessary that the surgeon should be entirely prepared for laparotomy before he incises the hæmatocele. The danger of this energetic interference is shown in Zweifel's own cases; once the wall of the sac was perforated into the abdominal cavity; the patient died of peritonitis. In another case severe arterial hæmorrhage occurred, and besides this a great amount of the irrigating solution ran through an opening in the sac into the abdominal cavity; he succeeded, however, in saving the patient by laparotomy. Fever occurred, in the subsequent course of several cases.

Zweifel treated 25 cases of hæmatocele by operation and 41 expectantly. The dangers of this active treatment, which in uncomplicated cases only claims to shorten the period of convalescence, are so great as to obtain general recognition. Wyder is extremely expectant in his treatment of hæmatocele, and has had excellent results, even in two cases where fever occurred as a result of resorption.

Extrauterine pregnancy, in the second half of its term, is usually treated surgically in Germany, since the dangers of delay are too great. Otherwise the patients die, in consequence of rupture or decomposition with perforation of the foetal sac. Schauta formed statistics :

Under expectant treatment 3 recoveries and 15 deaths.

Under operative treatment 37 recoveries and 38 deaths.

The procedure formerly used, which consisted of sewing the sac to the abdominal wall, leaving the placenta behind, has been gradually given up. Since convalescence by obliteration of the foetal sac is very protracted, and since dangers may arise from hæmorrhage or from decomposition of the placenta, Olshausen recommends this treatment only where the contents of the sac are decomposed : in all other cases the total extirpation of the sac is to be attempted.

This is easy of accomplishment when the sac has a pedicle, but when it is developed in the broad ligament it is very difficult. Werth advises against attempting it if the ligament is so completely spread apart that it is not possible to ligate the ovarian artery and the infundibule pelvic ligament, in which the spermatic artery runs ; nevertheless, a remnant of the infun-

dibulo pelvic ligament is preserved for a late period, and therefore Olshausen insists that even when the sac is large this ligament can be safely ligated, and, besides this, the bleeding from the uterus can be controlled by clamps. The enucleation could be preformed as in a case of an intraligamentary tumor. Schauta operated in this way without material hæmorrhage in a case of extrauterine pregnancy during the sixth month, where the child was living. The results of the total extirpation of the foetal sac are good : Schauta reports fourteen cases with two deaths, Olshausen has himself operated in five cases, all of which recovered. The time chosen for operation depends on the child. If this is dead, Werth and Leitzmann advise deferring the operation from eight to ten weeks, because the obliteration of the placental circulation does not occur until this time. Waiting in this way has its dangers, however : rupture and decomposition after the death of the child may lead to the death of the mother. Since the operation has now been so frequently performed with such good results, even when the child is alive, the total extirpation of the foetal sac will not be deferred so long in future. Operation during the life of the child was emphatically discountenanced by Leitzmann and Werth on account of the results of seventeen such operations which they collected, of which only two resulted favorably ; while out of forty-eight women, in whom the operation was performed after the death of the child, only seventeen died. These statistics, however, only extend to the year 1886. Since that time the results have materially improved ; at least a dozen cases are

known which terminated favorably where the operation was performed while the child was alive; Olshausen alone succeeded three times in saving the mother in such cases; once he extirpated the total foetal sac; once it was only necessary to tie off the placenta which was connected with the tube by a pedicle, and once the sac was sewed into the incision, and the placenta came away of itself four weeks afterward. Olshausen advises against giving any consideration to the child, in deciding the time of the operation, since the children are often deformed and show no great vitality. The interests of the mother are to be considered much more than those of the child, since at every moment rupture may occur, and since the technical difficulties of the extirpation increase with delay. The operation for extrauterine pregnancy is now generally performed through the abdominal wall. Elytrotomy has been abandoned because this affords an opportunity for removing only the foetus, while the placenta must usually be left behind. Zweifel performed elytrotomy once with an unfortunate result. On opening the foetal sac, the placenta was incised, and at the same time the abdominal cavity was opened. Laparotomy was immediately performed, but since it was neither possible to extirpate the foetal sac nor to sew it into the wound it was drained into the vagina and closed toward the abdomen. The patient died of peritonitis.

CARCINOMA UTERI.—In cases of this disease total extirpation has, in the course of years, continued to become a more satisfactory and, as a rule, a more safe operation, and it is employed exclusively by the majority

of German operators. The supravaginal amputation of the cervix, which was devised by Schröder fifteen years ago, has been almost entirely abandoned, notwithstanding the fact that Schröder developed it into a safe method, and Hoffmeier has shown that the permanent results in cases of carcinoma of the vaginal portion are as good as those following total extirpation. Among the grounds on account of which supravaginal amputation has been discarded, one of the most important was, that it was supposed that in case labor should occur later it would be attended with severe difficulty; the author of this report has observed an entirely normal labor in a patient on whom Schröder performed supravaginal amputation of the posterior lip, and infravaginal amputation of the anterior lip, four years before, on account of carcinoma of the vaginal portion. At the end of pregnancy the remains of the cervix dilated, the contractions accompanying pregnancy occurred frequently, and labor took place four weeks before term. It lasted, to be sure, twelve hours on account of weak pains, but the dilatation of the cervix went on without any difficulty. J. Veit observed a second case; in the year 1885 the whole cervix was amputated, and after two abortions at the third and fourth months had occurred, in the years 1886 and 1887, the woman bore a living child without any difficulty at the end of her pregnancy in 1888. Breisky observed a case of normal labor after supravaginal amputation, and Byrne, in New York, saw four deliveries in cases where the cervix had been removed by galvanocautery; these cases prove that easy labor may occur after Schröder's oper-

ation. Von Herff observed, to be sure, a very difficult labor after this operation; the dilatation of the cicatricial os uteri was extremely slow; it required violent pains, and was only completed after multiple incisions had been made. The cause of this is found in the fact that a small relapse of the disease was already present in the stump, and the cicatrix had become very resistant, perhaps also on account of previous suppuration after the operation. Of the women on whom supravaginal amputation has been performed in the clinic for women in Berlin, no other has given birth to a child except the one above mentioned. The women who are operated upon during their child-bearing years became sterile because the mouth of the os uteri, after the operation, was hidden behind folds of mucous membrane, and was contracted by a scar; treatment of this mechanical sterility offers no difficulty, so that the woman may easily conceive again. The opponents of Schröder's operation have further claimed that the cicatricial formation might give rise to dysmenorrhœa and hæmatometra. These conditions are, indeed, very apt to occur after operations with the galvano-cautery, as Braun's cases show, but they do not take place after extirpation of the cervix by the knife and the careful application of sutures. Out of thirty-two women, concerning whose subsequent condition I have obtained accurate information, twenty-six menstruated without any pain at all, while a few complained of moderate dysmenorrhœa, which is easily curable by dilatation of the cervix; there was no formation of hæmatometra.

Recent experience has shown that

endometritis of the body of the uterus almost always accompanies carcinoma of the vaginal portion, and after extirpation of the cervix, this endometritis may, perhaps, give occasion to further sufferings. For this reason alone Schauta has discarded the supravaginal amputation of the cervix. It is not necessary, however, to be afraid of this kind of endometritis; out of thirty-two women twenty-five menstruated as they did before the operation; only seven had transitory hæmorrhages, which, however, were not attributable to an endometritis of the uterine body. The chief objection which was raised to supravaginal amputation was that metastatic deposits in the fundus might be associated with carcinoma of the portio, and that the former would remain behind after extirpation of the cervix. The reports of eleven cases of carcinoma colli with metastases in the fundus have been published in the German language. Among these, however, there is not a single case in which a metastasis had been developed, where the carcinoma was limited to the vaginal portion, and the latter are the only cases which ought to be treated by supravaginal amputation; in all cases there was either a carcinoma of the cervix with metastases in the fundus, or there was a carcinoma in the body of the uterus which by infection had caused metastases in the vaginal portion. Up to the present time, therefore, no undoubted case is known which might have justified the fear that metastases would be left behind after supravaginal amputation of the cervix. A short time ago I saw a uterus affected with carcinoma of the vaginal portion and with two isolated carcinomatous nodules, of the

size of a pea, in the cervical tissue, the uppermost of which did not extend quite to the internal os uteri.

Some years ago Hoffmier published the subsequent histories of supravaginal amputation for carcinoma of the vaginal portion, and I have lately reviewed and perfected the tables of results obtained. Since the year 1878 155 operations in all were performed; 10 died from the operation, 13 were lost from sight: there remained 132 available for statistics. Of these, 80 suffered from relapse, 49 remained healthy longer than two years, and 27 longer than five years. No relapse is likely to occur after more than five years, so that about 25 per cent. of recoveries will represent the final result of supravaginal amputations. These results are not inferior to those obtained by total extirpation in similar cases. The mortality of supravaginal amputation: Olshausen, Fritch, Leopold, Kaltenbach and Schauta, out of 474 total extirpations had 40 deaths—that is, about 8.4 per cent. for a series of operations extending up to the present time. Supravaginal amputation has a mortality of $6\frac{1}{2}$ per cent., and these deaths almost all occurred while the operation was being perfected. Since the year 1884, 65 operations have been reported, with only *one* death, and this was not wholly referable to the operation. Supravaginal amputation, therefore, should not be wholly discarded, since it is much less dangerous than total extirpation, and since the women may bear children without difficulty in the part of the uterus which is left, and since there are no dangers or sufferings which originate in the latter.

The number of the uterine cancers

on which radical operations can be performed increases from year to year, with the progress of time, since the diagnosis can be made more accurately and earlier, and the methods of operation are continually growing more practicable. The writer has been able to prove this from the cases of the Berlin Clinic for Women.

The following table shows the percentage of cases of carcinoma of the uterus that could be operated on from the years 1876 to 1890:

C.			
Years.	No. of Cases.	Percentage.	
1876-83	811	19	
'84	114	21.5	
'85	127	23.5	
'87	149	28.1	
'89	173	31.4	
'90	62	37	

The increase in the number of cases susceptible of operation is referable especially to the number of patients who come from Berlin itself; of these there were 46.3 per cent. who underwent radical operation in 1890. In the country the number of operable cases is much smaller. Thus, for example, Leopold up to 1887 used to operate on about 20.4 per cent. To-day, in the great hospitals, on the average, about 25 per cent. of the women suffering from cancer undergo operation. Since about one-fourth of all the women who are operated on remain free from relapse, it follows that about one-sixteenth, or seven per cent., of these patients are permanently cured of cancer, while 93 per cent. of the sufferers continue to-day to perish of cancer as formerly. The writer has taken the pains to try to find out, through accurate investigation of the history of each case, the reason why, in the majority of cases, the women

come so late to the physician. It was discovered that in a large number of cases the family physicians, who were first consulted, were to blame for the delay in diagnosis because they did not examine the patients at all, or made a wrong diagnosis. To remedy this state of things it is highly important that in all cases where the patients complain of sufferings which are characteristic of cancer they should be examined at once. Among these symptoms the most important are the watery, sanguinolent or, perhaps, malodorous discharge; hæmorrhages after coitus and hæmorrhages at the change of life, while pain seldom occurs in the early stages of carcinoma. The greatest obstacle to the early diagnosis of uterine cancer is the indolence and indifference of the women who are affected concerning their own malady. How great these are is to be seen from the following numbers: In 62 women, from the beginning of the symptoms of cancer until medical assistance was

obtained, a space of time was lost respectively as follows:

In 16 patients, 1 month.

" 3	" 3 months.
" 8	" 3 "
" 6	" 4 "
" 6	" 5 "
" 5	" 6 "
" 1	" 7 "
" 1	" 8 "
" 4	" 9 "
" 2	" 10 "
" 2	" 11 "
" 6	" 12 "
" 2	" more than a year.

Only the most careful oversight of their patients by their family physicians, and instruction given them orally and by writing in an appropriate manner, will be sufficient to make the women more careful about their condition. It was only in the rarest cases that the cancer had developed so insidiously that it could not have been radically removed on the appearance of the first symptoms.

Amputation of the Vaginal Portion of the Cervix Uteri in Cases of Suspected Carcinoma.¹

PERHAPS the term *provisional amputation*, or "exploratory excision," would better express the object of the proposed operation, since it is suggested as a means of completing an unsatisfactory diagnosis. Collaterally its object is to avoid hysterectomy in

the absence of a lesion sufficient to warrant that operation. It will be generally admitted that the examination of scrapings from the endometrium, or of bits of tissue from the vaginal portion is often unsatisfactory and inconclusive, and the removal of sufficient tissue to admit of careful and thorough study may so mutilate the organ as to offer no advantages to

¹ Abstract of paper read by Dr. Andrew F. Currier, of New York, at the Eighty-sixth Annual Meeting of the New York State Medical Society, at Albany, February 2, 1892.

amputation. The proposition is, to a certain extent, analogous to that of preceding the resection of the intestine by colotomy. It is in harmony with the author's frequently expressed views in favor of early diagnosis; and hence the necessity of the general practitioner's seeking the advice of the specialist whenever a patient suffers with a stubborn erosion or ulcer of the mucous membrane of the vaginal portion, or with hæmorrhage from the endometrium, for which he cannot satisfactorily account.

The suggestions of this paper have no bearing upon cases in which the existence of malignant disease is clear and unmistakable. For such cases hysterectomy is the procedure, or palliative, curetting and cauterizing if hysterectomy is inadmissible. The fact that doubtful cases have frequently been brought to the author's attention, and the knowledge that the uterus may be and has been removed when malignant disease did not exist, have furnished the occasion and excuse for this paper. The conditions which render diagnosis difficult in the class of cases under discussion are—

(1) Endometritis, with or without hæmorrhage from the interior of the uterus.

(2) Hyperplasia, with or without fissure of the os and endometritis.

(3) Erosions, ulcers and glandular disease.

I. Endometritis is a comprehensive term. The simple catarrhal form does not concern us at present, and its importance is frequently overestimated. If there is a manifest inflammatory process, with a more or less abundant discharge of pus, blood or mucus, curetting will often be necessary, and the scrapings should be care-

fully examined. If improvement does not ensue in a few weeks, the discharge of pus, blood and epithelium continuing, and the microscopical examination also having proved inconclusive, the vaginal portion should be amputated. Then we shall be able to determine whether anything more radical will be necessary, and no harm will have been done if it is proved that the disease is purely inflammatory.

II. Hyperplasia of the vaginal portion may suggest the infiltration of malignant disease, and it may occur in both parous and nulliparous women. The unusual size is an element of suspicion. If there is increase in size and density, and also fissure of the os and eversion of the endometrium, the suspicion of malignant disease will be a reasonable one. For such cases amputation will often be preferable to trachelorrhaphy, as it will give us an abundance of tissue for examination, and it has been the author's experience that plastic operations upon dense and badly-nourished tissues are not likely to give satisfactory results.

III. Erosions, ulcers and glandular disease of the vaginal portion are frequently mistaken for malignant disease. Erosions are usually accumulations of granulation tissue which should disappear after curettement and the removal of the endometritis or other morbid condition by which they may be caused. If a cure does not follow such treatment the vaginal portion may be amputated. Ulcerations, apart from those which are clearly malignant, may be traumatic, syphilitic or chancroidal, rodent and papillomatous. An ulceration, which is at first benign, may become ma-

lignant after a longer or shorter period. A sufficient number of well-authenticated cases are on record to prove this statement. Amputation is indicated if healing does not follow other modes of treatment.

Glandular disease has derived importance from the careful investigations of Ruge and Veit upon this subject. They teach the necessity of the greatest watchfulness in all cases in which this condition is present. The use of astringent and caustic applications upon ulcerated tissues may arouse an incipient malignant disease to increased activity, hence there is always a certain amount of danger in their use. This statement is supported by the author's personal experience as well as by a number of recorded cases. The amputation of the vaginal portion is suggested, at this time, in preference to the high amputation of Schröder and Baker because of its superior importance as a means of diagnosis, and the lesser degree of

injury which it inflicts upon the uterus if malignant disease is not present. It will be equally curative with the more extensive operation in a certain number of cases in which malignant disease is in its incipency. Amputation of the vaginal portion will also be of service occasionally in cases in which malignant disease and pregnancy coexist and the pregnant condition may not be interfered with. Nothing new is offered in regard to the method of performing the operation, which is usually a simple one. It is usually performed by the author with curved scissors and tenaculum or volsella, though in cases in which the tissue is very dense a knife will frequently be found preferable to scissors. The circumstances connected with each individual case will determine whether it is better to cauterize the wounded surface of the uterus, to allow it to granulate, or to cover it with the contiguous mucous membrane of the vagina.

SOCIETY PROCEEDINGS.

Transactions of the Southern Surgical and Gynæcological Association at Richmond, Va., Nov. 11, 1891.

DISCUSSION ON "THE MEDICO-LEGAL ASPECT OF PELVIC INFLAMMATIONS."¹

DR. C. A. L. REED, of Cincinnati, in opening the discussion, said: Mr. President, I feel that this important subject ought not to be passed with-

out discussion. If the case¹ which has been related with such clearness and such force as to the points involved be taken as a text upon which we can discuss the various medico-legal prob-

¹ Following the paper on this subject by Dr. W. W. Potter, published in full in this journal in Dec., 1891, p. 155.

¹ Slight fall, delivery of child three months afterward, pain in hip, treated as hip-joint disease, suit for large amount for injury to hip caused by fall; patient shown to have salpingitis which was of old standing, the pain in hip being reflex. Verdict for \$2,200.

lems involved in the treatment of intrapelvic inflammatory diseases, then indeed is this a most important paper, and one which should elicit extensive discussion from the members here assembled. I never do an abdominal section for inflammatory disease within the pelvis without thinking more or less upon the possible medico-legal relations of the case. We frequently encounter cases in the operating-room in which a clear and distinct history of inflammatory disease, extending over a series of years, ought certainly to have directed attention to a proper or, at least, to an approximately accurate diagnosis, and to surgical interference. But these cases, in consequence of delay, have developed complications which prove to be the cause of death when the patient is placed upon the operating-table or afterward. Now, the question comes up: Who is responsible in that case? Is it the man who is responsible for the delay? Is it the man who is responsible for the complications, or the man who has taken his knife in hand and tried to give this patient, unquestionably doomed, otherwise, the last resource of his art? The question of diagnosis, however, is one that will always prove a stumbling-block to the settlement of these cases, and perhaps it will furnish a loop-hole out of which recalcitrant physicians may escape. (Dr. Reed here read a newspaper clipping of a case illustrative of the way in which medico-legal problems sometimes miscarry.) Continuing, he said: Justice may miscarry in the proper adjudication of this question; still, the matter of presumptive diagnosis is one of such extent, and settled upon such definite lines, that physicians ought to be able to distinguish be-

tween pelvic inflammation and hip-joint disease and between other intrapelvic conditions and the various reflexes to which they give rise.

I think this is an important subject, and one that should be largely discussed among our fellows. There is a gentleman with us who has given particular attention to the question of genital reflexes in the female, and who has had to deal with them. I refer to Dr. Engelmann.

Dr. GEO. J. ENGELMANN, of St. Louis: Mr. President, I have listened with much interest to both Dr. Potter's paper and the remarks by Dr. Reed. True as it is that our methods of diagnosis have developed most rapidly of late years, yet these cases still present difficulties, and are often puzzling, at least as to the determination of the cause. It is difficult to determine between the reflex and the morbid condition proper.

The case cited by Dr. Potter has a peculiar interest for me, because it closely resembles one which was among the first to pointedly call my attention to these curious phenomena. Almost twenty years ago, a young girl, the daughter of one of our prominent citizens, was brought to my father's office after having been examined by a number of able surgeons who differed most materially in their diagnosis. She was apparently afflicted with hip disease, and an examination without the aid of an anæsthetic substantiated this view apparently, and gave the surgeons reason to believe that they were dealing with the ordinary form of hip disease. Examination under chloroform revealed the absence of characteristic symptoms; under the anæsthetic it was evident that the organic lesion, at

least to the extent indicated by the previous symptoms, was not present, and yet all the symptoms had been noted. The case was one which puzzled the profession, and little attention was paid to my suggestion of a possible utero-ovarian lesion. The patient finally drifted into the hands of Dr. Sayre; what the result was, I do not know. To me, although I had not at that time classified those symptoms as hystero-neuroses, it was evident that this was a peculiar reflex dependent upon some catarrhal condition of the uterus—a cold taken during the menstrual period, followed by slight dysmenorrhœa and uterine discharge—although the causal relation was very indistinct. It was evident that all the symptoms of hip disease existed, until the anæsthetic was administered. The surgeons, as I have previously said, were at variance, some having even treated the sufferer for hip disease. Now that our knowledge of the hystero-neuroses is far more complete and we are more familiar with these conditions, such a case would hardly pass through the hands of prominent surgeons without being detected, yet Dr. Potter cites a case of recent occurrence which forcibly proves the diagnostic difficulties or the indifference of the profession to these cases. I must say that we can hardly wonder if such errors occur, as the symptoms of hip disease are so closely simulated that it is only by the most careful examination that the true condition can be determined, and, moreover, by an examination by those familiar with the reflexes, otherwise they will be misled. I am sure Dr. Potter constantly sees cases of reflexes simulating disease which have been treated by able physicians for the disease,

especially gastric reflexes treated as gastric disease. Patients doubtless come to him who have been treated for years for dyspepsia and other gastric trouble. He recognizes the reflex, ceases all medication, but seeks to relieve the existing uterine or ovarian irritation, and the persistent dyspepsia or gastritis disappears. The symptoms are precisely the same as those of the actual morbid condition, and it is only the closest and most careful examination of all organs which enables us to make a correct diagnosis. This similarity of the simulation of organic disease by the reflex to the disease proper is one of the most potent arguments against too close a confinement to specialism. Only the specialist who is a good general practitioner, familiar with all diseases, will recognize these conditions with their causal relation, and they certainly deserve the attention of physicians from a medico-legal aspect by reason of the great liability to errors in diagnosis.

Dr. HOWARD A. KELLY, of Baltimore: I agree with Dr. Engelmann as to the difficulties attending the diagnosis of such a case as has been reported by Dr. Potter; but I think until the status of medical education is decidedly elevated, until we prolong our courses and advance clinical instruction, the men who have graduated under our present system of education will be blamed. The complaint of a reflex hip pain is one of the commonest pains of all the reflexes of pelvic disease, and one which we should be continually looking out for. I have within the past few years made several drawings, which are in my case books, of women who have come into my office with very peculiar gaits,

due to the presence of tubal and ovarian inflammatory disease. Probably some of the members here will recognize the picture of a woman stooping over and holding the lower part of the abdomen and walking as tenderly as if she feared she would give her body the slightest shock. It is not a week since I sent a case from my operating-table, on which she had been placed for an operation for the removal of the tubes and ovaries, over to a general surgeon for treatment of hip trouble. The patient was under the treatment of Dr. Fenby. She had pelvic abscesses which ruptured through the vagina and discharged themselves. Following this she had a severe hip pain and sensitiveness and was unable to walk. The doctor presumed there must be still lingering pus trouble in the pelvis to account for her inability to walk without severe pain and limping. She was put upon the table. I found old scars, some fixation, but absolutely no evidence of any pelvic inflammatory disease present. The pelvis was perfectly free and clear; but on manipulating the hip I found decided limitation of motion on the left side—in other words, some trouble in the fascia around the hip and under the hip joint. The woman was sent back to her room and then sent to the general surgeon of the hospital.

Dr. WILLIS F. WESTMORELAND, of Atlanta: I regard the paper just read by Dr. Potter as a very important one; and what Dr. Engelmann has said is true, that we have too many men who look at a case entirely through the eye-glass of a specialist. This remark is just as applicable to the general surgeon as it is to the gynecologist. I differ with Dr. Kelly.

I do not believe our methods of medical education or clinical instruction will correct it, for the reason that there are few students who pay any attention to the general cases that come up. They make up their minds to study special branches, as diseases of the eye, gynecology, or some other department.

I had a case last winter similar to the one reported, and instead of using my own knowledge in the case (I practice general surgery), I did what I think every man ought to do—I called in a specialist in that line and got him to confirm my diagnosis. It was a case in which suit was brought for damages. The woman claimed to have been thrown down in a car, and, as a consequence, trouble resulted. I think the general surgeon, when he finds these conditions, instead of depending on his own opinion, should consult a specialist. If he does not, he is behind the times. These cases, from a medico-legal standpoint, are not only interesting from the fact of the information which they afford or what we can do in regard to them, but it means as much to the doctors on the other side. It means a great deal more to whatever railroad company is sued for damages. I think it is an absolute injustice to have the general surgeon in all cases of injury of this character, whether called in previously or appointed by the court, to make an examination. I think it is an injustice to every one connected with the case, if, after they find any trouble, they do not call in some specialist in whom they have confidence, to confirm the diagnosis before the case goes to court. This confidence means just so much to one or so much to the other party.

There is another point in reference to these cases, and that is this: you take a woman who has had nervous troubles; they may have come on insidiously for five or ten years, and you find that in nearly all such cases you get a history of that kind; but any accident, I do not care how trivial it is, will fix the attention of the patient suffering from the reflex trouble, and the history of it dates from that particular time. If you go into the matter more thoroughly, you will invariably find that the history of the present trouble antedated the accident by months or even years. It is that particular point that I wish to call attention to, because your patient, perhaps one of your personal friends, is conscientious in the thought that the injury caused the reflex trouble. When it comes up, although you have treated this patient previously, you will find invariably that the trouble is attributed to some accident, and the moment a patient of that kind gets into the hands of a lawyer a lawsuit is the result. Lawyers are continually hunting up such cases. Patients are impressed with the idea, outside of their conscientious belief, that everything dates from some trivial accident that they had received, and the physician is called into court to testify in regard to such cases.

In reference to the particular neurotic effects, I know very little about them from the standpoint of gynecology or obstetrics; but in surgery, when we are called to treat a male or female, the hip joint is the most frequently affected. We should not lose sight of the fact that every other portion of the body is susceptible, more or less, to the same influences. While

it may occur frequently, the first case you have should put you on your guard for the future, from a medico-legal standpoint. Look out for such cases.

Dr. JOSEPH PRICE: I cannot permit the criticism that Dr. Westmoreland has made concerning us as specialists to go unnoticed. I have the highest possible regard for the general surgeon. I served in that field. It has not been my experience altogether that the general practitioner, the man who does all kinds of work, with a wide and varied experience, has been very much at fault in the matter under consideration. He admits his ignorance, but, as a rule, if he worries he has some serious trouble of which he has not determined the precise nature. He feels satisfied that there is something present for the specialist to deal with, and commands his service at once. The gynecologist finds, on seeing the case, that he is, in the main, correct. The criticism I have to make of the general surgeon is this, that if he errs, it is because he is careless; because he dislikes to examine, to investigate; because he is not sufficiently painstaking and thorough. Gynecology to the general surgeon is, in many cases, distasteful. I refer to pelvic troubles; they are difficult, trying, complicated, and they give him that degree of anxiety and alarm that he is not accustomed to in his general work. He will deal with large tumors, but shirks the pelvic cases. For instance, some prominent surgeons in this country have sent cases of pelvic trouble to me, saying that they disliked to dirty their hands with them. Just in that particular the general surgeon is careless. If he finds ure-

thral, perineal or rectal trouble he overlooks all above it. I remember one such case that passed through the hands of two prominent surgeons. One cut the bowel freely; the other, the urethra, until no special or general surgeon could have corrected the mischief they had done. In this case I found a sac of pus as large as a sweet potato. The perineal, vaginal and urethral trouble of which the woman was supposed to be suffering had absolutely nothing whatever to do with her illness.

I am in accord with everything that was said in the paper, and will go a few steps further. A few years ago a distinguished surgeon criticised my remarks in Cincinnati. I carried in my pocket then a letter from a physician in Ohio asking me to operate upon one of this same surgeon's patients. He was satisfied that the patient had some serious pelvic trouble. The patient had a hip-joint apparatus on, placed by my critic. It was not hip-joint disease at all. After removing a large pus tube, the hip-joint apparatus was taken off. The woman is now healthy and happy. This gentleman was "astounded" at at some "sweeping" remarks I made on the subject of pelvic surgery. As I was doing nothing else, I thought I had a right to speak plainly in regard to my everyday work, and as to the importance of a subject with which experience has made me familiar.

I have alluded to cases in which the hip-joint apparatus was taken off. I will allude to one briefly that occurred in Philadelphia. The woman passed through the hands of a number of good men. Almost everything was done that I know of. Even the jury-mast was applied.

The woman was ill for years with all this machinery on. She was operated on, and I saw her a few weeks ago carry a huge bundle from a clothing house—a bundle so large that I would scarcely attempt to carry it one square. She is now perfectly healthy and vigorous, and supporting three children.

Allusions have been made regarding "gestation." We have all sorts of talk now about gestation, "concealed pregnancy," etc. I scarcely understand what physicians mean by "concealed pregnancy." It means ignorance on the part of the physician or diagnostician.

Gynæcological specialists are sometimes subjected to uncharitable criticism because they have given up the eye, the ear, the nose—in fact, general surgery and practice—at a great sacrifice, and have devoted themselves to pelvic or abdominal surgery alone.

I recall a case which was in the hands of one of our most prominent neurologists, occupying a position in one of our most prominent hospitals. He made seventy-eight applications of the cautery for sciatica from the knee to the back. The woman was finally sent to me by a general practitioner, a man who usually succeeds in making a diagnosis. I removed a small dermoid from the right side, about the size of an orange, universally adherent and suppurating. The sciatica disappeared. We are all responsible, more or less, for neglect and delay in these cases. Cases of ectopic pregnancy are quite common, and deaths numerous. Some of us are willing to take the arbitrary position we should. When a physician comes to me and tells me that he thinks he has an ectopic case, it is my duty to

operate at the first visit, if the diagnosis is correct. We have no right to delay an operation twenty-four or thirty-six hours.

I remember a case, important from a medico-legal standpoint, which I will relate briefly. I saw the patient in consultation. I insisted upon her going to a hospital only two squares distant. She went. I made a special visit to the hospital to order preparations made for an operation, and a few minutes after I had my apron on ready to operate, I received a telegram from the husband requesting me not to touch his wife. I took my nurse and anæsthetist, and we went to the patient's bed. I again explained her condition to her fully, read the telegram to her carefully, and told her that she was the sufferer, and that it was her life to be saved and not her husband's; that I would leave the matter to her, and she said, "Doctor, go ahead." I did, with the telegram in my pocket forbidding me to touch her. The woman recovered. I would do it again to-morrow under kindred conditions. (Applause.)

A word in regard to opium. The general practitioner has precisely the same position that the specialist occupies. A distinguished surgeon was called to see a case of appendicitis.

When he reached the patient he found a number of physicians in consultation, the man batted down with opium. He had four half-grains in twenty-four hours, was feeling happy and comfortable, and all the symptoms were concealed. There was no possibility for him to make a diagnosis. I refer to this case as a type of many and to fortify Dr. Westmoreland's position that, in all such

cases, whether suppurating dermoids or appendicitis, it matters not what, if the general practitioner wants consultation he should keep his hands still until he gets it. Let the physician and surgeon talk the matter over, then they will come to some wise conclusions as to what is best to do. Do not conceal the trouble with opium. Let the surgeon see the patient with you, and you will have very many less deaths and more surgical triumphs.

Dr. I. S. STONE, Washington, D. C. : I have two cases in mind to which I wish to refer briefly. The paper of Dr. Potter shows how men who are doing this work may be readily mistaken in arriving at conclusions. The first case I happen to think of was brought into the hospital about two weeks ago with a temperature of from 102-5°. She was a colored woman, and, of course, as you might easily imagine, there would be no lawsuit about her. But supposing she had been a white woman and her husband a man of influence, there might be a different state of affairs. No motion of the left hip could be made without very severe pain. There was at the same time a slight discharge of pus from the vagina and a slight "thickening" on the left side. At the consultation, which took place last Sunday morning, Dr. Wells, of New York City, and the entire staff of the hospital were present. We gave her an anæsthetic and found but little evidence of any pelvic disease whatever. One of the consultants suggested that she had gonorrhœa and possibly gonorrhœal rheumatism, but she said positively that she had the trouble in the joints before the discharge occurred from the uterus. I

may say, in passing, that the uterus was $3\frac{1}{2}$ inches in depth, and she was told three months before, when she left the lying-in department of the hospital, that she was perfectly well following child-birth, and remained so until three weeks before readmission. At the examination we failed to detect any abdominal or pelvic trouble. There was no peritonitis. But during the examination under anæsthesia there escaped from the rectum a discharge. I am not sure whether it was pus; but some thought it was. It may have been from an ischio-rectal abscess, but I am not sure of that. I am unable to say positively what it was. I suppose if some lawyer had been present he would have witnessed our dilemma, and there is no telling what could or would have been done. It is difficult for the practitioner in such cases to foretell what the result may be or to say what the case really is.

I wish to relate one other case. A patient was brought in, having eight months since been delivered of a child. The physician in attendance never made a vaginal examination. She had a temperature of 103° when she came to the hospital and was *in extremis*. She had been having repeated chills and sweats ever since her confinement, and the attending physician had told her that she had liver disease, malaria and a number of other maladies. An examination revealed what the trouble was. An operation was done, the tubes and ovaries being scooped out with great difficulty. I did not attempt to separate all adhesions, for she would not have lived through the operation. The patient recovered; but suppose she had died as a result of my surgery,

would not the doctor be responsible for this? I am obliged to say he would. We should not be held responsible for a death which is plainly due to the neglect of a former attendant. We are continually meeting with these neglected cases, and think a physician of even one year's experience should understand the importance of making a pelvic examination when he can find no other cause for obscure symptoms.

Dr. POTTER, in closing the discussion, said: The subject presented in the paper that I have read to this association is a many-sided one, but as it has provoked no adverse criticisms there is very little occasion for me to occupy valuable time with extended remarks in closing this discussion. I should like the privilege, however, of accentuating two or three points that have been developed during its course. I may remark *en passant* that the case reported had in itself less consequence than the principle to which it pointed. One of the lessons it teaches is that in the selection of counsel, the young physician should be careful to obtain that sort of aid which will give him the strongest support when judged by the severest test—the sort of aid that will stand against the adverse criticisms of the meddlesome public, and, most of all, withstand the searching inquiry of the courts. In a case of pneumonia a physician is not strengthened by associating with himself a dermatologist; in a case of fracture, the consultant should not be an ophthalmologist; in a case of pelvic disease, involving the female organs of generation, a general surgeon has very little place as a consultant.

The fashion among younger phy-

sicians is, as a rule, to send for their favorite professor or teacher to consult with them on any and all occasions, no matter what disease or injury the patient suffers. If a greater degree of judgment was exercised in the selection of a consultant, if he were chosen by reason of his special fitness to deal with the particular case in hand, less harm would come to the reputation of physicians and greater benefit would inure to patients.

Another lesson that may be learned from this case was most pointedly referred to by Dr. Westmoreland, who uttered a great truth when he affirmed that if a woman suffering with pelvic disease and its neurotic complications should fall down, make a misstep, or receive some trifling injury, she was almost sure to attribute all her subsequent woes to the alleged injury, giving very little credit therefor to the pre-existing disease. Such a woman easily becomes the victim of a designing lawyer, who generally encourages her to bring suit for damages against anybody and everybody—physician, corporation or municipality—that can be drawn into his insatiable maw. Let me add, that those women who become the victims of nervous reflexes, arising from pelvic disease, are to be pitied in the extreme. They are more than likely to exaggerate all their symptoms, are powerless to exercise self-control, obtain very little sympathy from their friends, and their sufferings from the neurotic reflexes are often more painful to witness than the agony of disease itself. It is not, therefore, in criticism of their complaints that I speak, but to invoke for them the kindest and most patient consideration.

The case related by Dr. Reed has

a very interesting medico-legal bearing upon this subject. I may mention, in concluding my remarks, that I have heretofore seen the newspaper clipping descriptive of the case referred to. It was printed in one of our medical journals, and fell under the eye of the general counsel of the Erie Railway, who entered an appeal in the case, as his road had been mulcted in damages for a large sum upon the first complaint. I believe the action taken led to a stay of judgment, and that a new trial has been ordered.

I cannot close this discussion without commending Dr. Price for the courage he displayed in the case he mentioned.

DISCUSSION ON ABDOMINAL SECTION.¹

DR. JOSEPH TABER JOHNSON, of Washington, D. C.: Mr. President, Dr. Opie in his excellent paper started out with the suggestion that more men should report all of their work, that we learned a great many points by such complete and full statements. By reporting a series of successful cases only, as they occur here and there in a man's practice, it pleases the operator and his admiring friends, but doubtless the world in general is deceived. It is a pleasure to report twenty or forty cases without a death, and I have occasionally done this, but when a man does this too often we are apt to think that he has forgotten to include those cases that were fatal; but where a man includes his whole work, the successful and unsuccessful cases, as Dr. Opie has done, we all agree that it is an admirable thing to

¹ Following the paper by Dr. Thos. Opie, reporting "Thirty-two Unselected Cases of Abdominal Section," published in full in this journal, January, 1892, p. 206.

do. His paper, when published, will be an instructive one to those who are doing this same kind of work.

I believe a great many cases are reported too soon after an operation has been done. The operator feels pleased that his patient has survived the operation, and he reports the same as having been a success. If he followed up his cases, he would not, perhaps, in the long run be so pleased with his work. Here is where instruction comes in, that while the patient may have recovered from the effects of the operation, she may not be entirely cured of the disease—perhaps in some cases not even benefited.

Among the points the essayist referred to was one with reference to exploration: that we might do more good by making exploratory incisions often. I agree with Dr. Opie, and should differ with Dr. Price in regard to such cases being incomplete. We do good work sometimes by simply exploratory laparotomies. I have a case in mind that I recently operated on, where the pelvis was completely blocked up with a fibroid mass, giving the patient a great amount of suffering from pressure of the rectum and bladder and pains in the legs. The patient said she would rather die than go on in this way. I could not promise anything except to make an exploratory operation. I thought it possible to remove the ovaries. After making an exploratory incision, I found that only one ovary could be removed. The other was beneath the tumor, which was covered in by adhesions, so that it was impossible to get it out. I simply did nothing. I sewed the wound up, and the woman went home, feeling, strangely enough, that she

was greatly benefited. If I had persisted and removed the tumor "completely," I am sure she would have died.

Dr. William White, of Philadelphia, has drawn attention to this class of cases, where an exploratory operation has been done, and to the marked effect upon the patient, or where by manipulation some retrograde process is set up in the tumor, and the patient feels greatly relieved. Where there were universal adhesions; as in my case, the bladder and rectum crowded down into the pelvis, with dangers insurmountable, it required more courage on my part to abandon the operation before those whom I had invited to witness the removal of the tumor than to go ahead and cut it out regardless of consequences.

I do not agree with the doctor in regard to drainage. He understands perfectly that it is not a personal criticism. I am very glad the subject is under discussion. It is one that puzzles us in our operations. We do not know always *when to* and *when not to* drain. When we are in doubt we drain anyhow. Dr. Price has said that the drainage tube does not do any harm. I am afraid that in many cases it does do harm. As Dr. Marcy has said, every time you put a suction apparatus down the tube, air laden with germs rushes in from around the dressings, especially if it is a hysterectomy operation with sloughing of the stump. I have had a series of eight hysterectomies without a death, with the most stinking mass of a stump above the constricting wire. The patients recovered without the germs doing any harm in these cases. There were plenty of them there, however, and such as have probably

destroyed other patients. A drainage tube will do harm, yet in some cases it does good. I feel perfectly certain that some of my cases would not have recovered had it not been for drainage. Dr. Price has told us, that he has put these cases by the side of each other, and that those in which a drainage tube was used had a cleaner tongue, a slower pulse, and got well more rapidly and surely.

In regard to operations for ovarian tumors, they ought to get well. Simple ovariectomies nearly always get well without much difficulty.

A point was made with regard to insanity following these operations. I believe the horrible mental state of women, after these operations as described by some writers who are not operators, has been much overdrawn. I think there are few cases, where ovariectomy has been done, that the woman has gone insane in consequence of the operation. They were patients either ready to go insane, or who had hereditary insane tendencies, or the same kind of influences that would make a man go insane. I do not believe, after looking up the subject, that there are any more cases of insanity following laparotomy in women than there are of serious operations performed on men.

In regard to flushing out the cavity, I think that a woman runs very much less risk if the cavity is well flushed when there has been spilled into it a lot of bad-smelling pus by the bursting of an abscess; if you attempt to wipe it out, you find it is adherent. In colloid tumors it is too thick to run or to dip out with a ladle. You wipe and wipe with your sponges and it wont come out. You liquefy it somewhat by flushing, and by this kind of irriga-

tion with the excellent apparatus which Dr. Price has invented, the fluids are forced out by a current of water, and the infection that comes from poisonous pus is guarded against. It is a much more efficient way to remove pus than by sponging. By the use of the continued flushing, two or three pitchers of water one after another, the parts are cleaned so that the last quantity of water that is pumped in need not be gotten out. The peritonæum will take care of it. My experience has been that in some cases where there are adhesions of the intestines, if we leave a gallon of water in there, the patient is better for it, provided it is clean. I had a case where the intestines were glued together, and after separating and leaving the parts floating in about two gallons of water, the patient got well.

Dr. W. E. B. DAVIS, of Rome, Ga. : I enjoyed listening to the paper of Dr. Opie, from the fact that he laid stress on his fatal cases. I think we have all read enough about ten or twenty successful sections, etc., in which the title of the paper is more of an advertisement for the surgeon than for the benefit of those who read the paper. I do not mean anything personal; but I do really believe—and I have expressed it recently—that the habit of reporting a series of cases has got to be a great evil. There is a tendency in reporting these cases to make it appear that they all get well without complications; in other words, there is a tendency in the profession, especially among those who have hospitals—and I do not refer to any particular man in this association or out of it—to report successful cases which are a good advertisement for the sur-

geon. There is often a motive in reporting a series of cases, and we can see how it might do a man's practice good when it would not materially benefit medical literature. But Dr. Opie has emphasized his fatal cases, and I congratulate him upon the work he has done. We learn a great deal from the publication of such cases.

There were one or two points referred to that I desire to speak of, and the first is with reference to drainage. When we see and read of the successful results of men who seldom use drainage, we feel that we ought not to use it. We know that Martin and others rarely use drainage and that their patients do well, yet I do not believe we can draw any lesson from that. The surgeon who hardly ever uses a drainage tube, if he should use it, does not take care of the tube like the man who resorts to it in the majority of cases.

I think another mistake is made in the size of the tube. To put a large tube in the abdomen is a thing we ought not to do. The small tubes, such as are used, will give us sufficient drainage, and usually they can be removed in from twelve to twenty-four hours. The cases in which drainage is used get well with fewer complications. About germs in the abdomen: I believe with other speakers that the peritonæum can take up a number of pathogenic germs, if it is kept in good condition. If properly drained, the peritonæum will be better capable of digesting or taking up and destroying germs. A peritonæum in which there is no drainage would succumb to very few microbes.

In reference to Dr. Johnson's case of general suppurative peritonitis, I want to say that where we have a

quart or a gallon of pus in the abdomen and recovery follows, it is not due to general suppurative peritonitis or abscess. If we get general suppurative peritonitis, where the pus is due to peritonitis proper, I do not think there is any hope for the patient to recover. This has been demonstrated by gunshot wounds of the abdomen, and I have seen quite a number of cases. We agree with Grawitz and others, that by the time a general peritonitis becomes purulent, you have lost all hope of saving your patient. For instance, if a man is shot in the belly, and twenty-four hours elapse before you see him, it would be better surgery to refuse to operate. It is better to teach practitioners that if we operate in these cases we must do so early, and if we are not allowed to do so, it is bad surgery to operate late. We bring surgery into disrepute, and thus fail to operate on many patients whose lives we might save by early operations.

In reference to getting rid of pus, I am inclined to the idea of flushing the cavity, notwithstanding the fact that I know pus can be sponged out without flushing the cavity. The general surgeons who are doing operative work for disease of the appendix and abscesses around its base, as McBurney, Stimson and others, sponge pus out of the cavity, then pack with gauze, and the patients get well. There is not the danger from general infection that we have been led to believe in flushing the cavity. We do not have as high a temperature; we do not have as much traumatism, and we relieve shock, and by putting in a small drainage tube our patients get along all right.

Dr. H. P. C. WILSON, of Baltimore:

Dr. Opie is to be congratulated on the success of his year's work, and I can but reiterate what Dr. Davis has said, that if we reported our failures more and our successes less, it would be better for us. We learn a great deal more by our failures than by our successes. I have never had a failure in abdominal or pelvic surgery that I have not learned something. I have had many successes where I learned nothing. With regard to drainage, I consider it a necessary evil. I use drainage in some cases; in others I do not drain. It depends entirely upon the case. I would reverse the maxim of Mr. Tait, and say, "When in doubt, don't drain." I am sure, where there are a great many adhesions and considerable oozing after an operation, that drainage often does good, and should be used; but where we have clean operations, where little or nothing is left in the pelvic or abdominal cavity, I do not think we ought to drain. We need not insert a drainage tube simply because one man is in favor of it, and leave it out because another is opposed to it. The question must be decided in every case by the judgment of the surgeon.

While in Birmingham, England, a year ago, I saw one of the most eminent and successful surgeons in abdominal and pelvic surgery do three laparotomies. The operations were beautifully done. I do not think there were two drops of blood left in the cavity. He inserted a drainage tube in every case. After the operations were over and I got the surgeon to one side, I said, "Why did you put drainage tubes in those cases?" He shrugged his shoulders and said, "Simply because I feel better when

I have one in." I do not see how it was possible for these cases to have done badly without drainage tubes, and I think that the chances of success were lessened by the insertion of drainage tubes.

I have had one accident from the drainage tube that made quite an impression upon me. I am sure I had a fæcal abscess from the drainage tube in a woman who had a multilocular tumor of years' standing, with adhesions everywhere. I had a great deal of trouble in separating them. I washed out the cavity, inserted a drainage tube, and she did not have an unpleasant symptom for fourteen days. I considered her well. She was able to sit up and walk about, but when I was told by the nurse that there was oozing from the place where the drainage tube had been, I went to see the patient and found fæces coming out. This case gave me an immense amount of trouble. If I had never used a drainage tube in this case, I am satisfied there would have been no fæcal abscess. There was considerable oozing. I will say with Dr. Davis, that where we do put in a drainage tube we should dispense with it as quickly as possible. Usually there is no necessity of keeping it in longer than from twelve to twenty-four hours.

There is one point in that paper that I desire to briefly allude to, viz., cases of pyosalpinx. I am going to say something that my friend, Dr. Price, and some others are likely to call me to account for, and that is, with regard to pyosalpinx so commonly following gonorrhœa. I have done a great deal of abdominal and pelvic surgery in my life, but I have never seen a case of pyosalpinx that

I could trace certainly to gonorrhœa. It is true, my practice has not been among the worst classes. I have had a number of cases of gonorrhœa that I knew to be true gonorrhœa by the confession of the husband, where his wife did not know that he had it; and I have not had pyosalpinx follow in a single case. I do not believe that pyosalpinx so necessarily follows gonorrhœa as a great many practitioners think. We have gonorrhœa mostly in that class of women who are exposed to all sorts of male influences that stop or produce menstruation, and destroy the vital force generally. Pyosalpinx is most frequently found in this class of patients.

Another point: I would like to say a word with regard to operating for the removal of the ovaries and tubes in cases of mania. My success in some four or five cases in which I have operated for that purpose has been most gratifying. Some of the patients had been in an insane asylum before they came to me. They were suffering with pelvic symptoms, with disease well marked in the ovaries. Believing that their symptoms were more referable to these than other parts, I removed the ovaries and Fallopian tubes, and in all cases the women were restored to health, and are active and sane to-day. One of them walked into my office a short time since in good health. She had been in an insane asylum twice. She was so insane that she had to be strapped in bed after the operation, and a nurse kept with her constantly. For over eighteen months she has been in perfect health. She is now rosy, and, as her husband thinks, is handsomer.

She has improved remarkably in appearance every way.

A girl from an adjoining State was insane on two occasions. Whenever she got her feet wet her menses would stop, and she would become insane. Her father brought her to Baltimore in that condition for the purpose of putting her in an insane asylum. I dissuaded him from it, and resorted to all the means at my command to bring on menstruation again. I succeeded, and with the return of menstruation she recovered her mind and regained her health. He took her home, and in a few months she got her feet wet, stopped her menses, and became insane again. He brought her back to Baltimore, and I tried to bring on her menses, but failed. This time I advised oöphorectomy. I did the operation. The girl was insane at the time I did it. She had to be strapped in bed. To make a long story short, she is perfectly well now, and is a useful, happy girl. The other cases I will not relate. My success in the cases I have operated on for mania have been very gratifying, and I am satisfied that in many cases of mania we save women from asylums by removing their ovaries. I do not believe, however, in performing oöphorectomy for neuroses. That is a different thing.

I am an advocate for flushing out the abdominal cavity. It was only some three weeks ago that I saw Dr. Robert Wilson remove a large ovarian abscess with adhesions, and on manipulating it gently, the abscess burst and discharged a pint and a half or more of pus, of a most offensive odor, into the abdominal cavity. It would have been impossible to

have cleansed that cavity with sponges. The cavity was washed out, and the woman is doing well. I believe we can cleanse the abdominal cavity, by washing it out, with less damage to the serous membrane, and with less injury to the parts, than by sponges. Where there is much effusion or oozing of blood that becomes coagulated among the convolutions of the intestines, it is exceedingly difficult to cleanse the cavity with sponges.

Dr. HAGGARD : How long was it, Dr. Wilson, after removal of the ovaries, before the symptoms of insanity disappeared ?

Dr. WILSON : In one or two cases it was several months. One case, I think, was insane at the hospital for four or five months after the removal of the ovaries, and did not perfectly regain her mind till six or eight months after she returned home. Surgeons performing this operation for mania should not be discouraged if their patients do not fully recover for a year or two. The worst cases commence to improve in mind after a few months, but often are not perfectly themselves for several years.

A MEMBER : After removal of the ovaries, do not patients have nervous symptoms similar to those produced by the climacteric ?

Dr. WILSON : Most women, after removal of the ovaries, have various nervous symptoms, such as they have during the natural change of life. Very often they have nervous symptoms following any major operation, and they are sometimes critical.

Dr. JOSEPH PRICE, of Philadelphia : We all value Dr. Opie's work ; we know considerable about it, and know him to be a painstaking man, capable

of doing good and incapable of doing mischief. But there are some points in his paper that I wish to deal with briefly.

He has alluded to the laboratory scientist. We know of many young Americans who have worked in German or foreign laboratories for scientific purposes, and how valuable their work has been. Long before these men turned up and contributed so much to destroy the little beasts or germs that have been referred to, men like Dudley, of Lexington, did wonderful work. It has never been equalled since. Two hundred and twenty-five lithotomies, and three deaths. Pause a moment and think of it ! Lister or his followers will never equal it. Long before the laboratory men and the solution men taught us so much about sterilization and the destruction of little beasts in the organism, Fox did twenty-two consecutive amputations above the elbow and knee without a death. I could allude to a great number of men that did wonderful work before the days of Lister and his followers ; not that I do not value what he and his followers have done in the field of progressive surgery, but all of these men have claimed too much for their solutions.

They first insisted that carbolic spray was of vital importance, and that it greatly reduced their mortality ; still we find women in our maternities and men in the general hospitals dying from its abuse. The spray, carbolic acid, bichloride of mercury and other solutions were lately denounced in so prominent an institution as the Johns Hopkins University in unqualified language—solutions which they had considered of great value. The men who talked the loudest about the

value of these solutions are the first ones to denounce them.

I feel much like the Sunday-school boy. His teacher first told the Jonah story. The little boy listened attentively to it. She followed it with the Daniel story, and after the story was told he said: "Say, miss, you have gone too far now; I do not believe your Jonah story." I feel like the little boy in regard to the laboratory men. We scarcely seek a college man now to help us out of difficulties.

Exploratory incisions.—An exploratory incision implies a certain amount of doubt and ignorance. I am not speaking personally now; I am referring to the whole class of surgeons. We ought to make a diagnosis. When we make an incision, we go after something—the uterus, tubes, ovaries, hydatid cyst, or stone in the kidney, and when we go directly into the kidney we do not call it an exploratory operation. If there is a stone there, you may tear everything up in the attempt to remove it, or else you say you can't remove it. I call that a severe operation. Mr. Tait made ninety exploratory incisions in his first series of 1,000 cases, but did not report ninety in his second series. He reduced them more than fifty per cent. I saw him do two exploratory operations.

In regard to the dry treatment of the Germans or Americans, if you please, I have tried it, and have seen it tried by others. While in Boston I saw some jars filled with sponges made of gauze and cotton. They were practising the dry treatment there. I took pains to watch their mortality, and it remained very high, more than fifty per cent. So it has stayed their hands.

The wet treatment—irrigation—has

been practised for centuries, and for special surgery there is nothing in my opinion that will wash out debris like water. I have practised both, and I must say the wet treatment is the more valuable.

With reference to the germs of which we hear so much, some operators have nothing to say about them in the open treatment. Take the Willard Parker treatment of appendicitis, for instance, as practised by many. Parker advocated the open treatment, and many surgeons had practised it long before his paper on the subject. I have left the abdomen open, and the germs did not carry away my patients. They got well.

In regard to insanity, I am glad Dr. Wilson has referred to it. He operated on his cases for a good cause and for a specific purpose. He probably recognized some local mischief, or if he recognized a functional cause it would be quite sufficient. I have repeatedly operated on insane patients, some of them young girls, and I am satisfied that many women could be taken out of insane asylums, operated on, and relieved of their insanity. I have been called thrice to one asylum to operate, and the neurological experts agreed with me that many women could be relieved of their condition by careful, judicious surgery. Some time ago two physicians in our city hesitated to remove pus in a woman living on Green Street. Her temperature was high, and her whole condition miserable and insane. I operated promptly. Dr. Armstrong, of Montreal, witnessed the operation. I removed two huge pus tubes and ovarian abscesses. She made all sorts of insane contortions. I placed her in the hands of two nurses. Her intel-

lect soon cleared up. The second week I felt doubtful as to her condition. I feared I would have to send her to an asylum. In the latter part of the second week her intellectual condition was all right. The drainage tube remained in a week. The whole condition was soon changed, and she was in my office a few days ago. I failed to recognize her, as she looked rosy and bright. She improved in appearance, and these operations improve the appearance of most women. It does not make them look coarse. I operated on two of the most prominent musicians in Philadelphia; one, a lady, a celebrated contralto. I operated on her for purulent peritonitis, with pus tubes and ovarian abscesses fourteen hours after leaving the choir. She had a quart or more of pus and muddy fluid in her peritoneal cavity. I have since made inquiry as to her condition, and I find she still sings as sweetly as ever.

I operated on another fine musician in Germantown two years ago. Her voice remains perfect.

Dr. Davis and others have referred to Martin's work and that of other surgeons. I refer them to the *ANNALS OF GYNÆCOLOGY*¹ for a report of Olhausen's and Martin's work to date in ovariectomy as well as hysterectomy and pelvic work. Their mortality by the intraperitoneal method was high. All these men condemn drainage; they practise the dry treatment. I am not willing to adopt Dr. Opie's statements with regard to contamination from drainage and irrigation. The drainage tube is a useful thing in removing fluids, debris, etc. If the dry treatment is as successful as some

claim, why is the mortality so great? In regard to reporting our own work, the successful and unsuccessful cases, how they die and how they might be saved, I think if it were done we would greatly benefit each other. I scarcely agree with Dr. Davis that the reporting of these cases would be an advertisement for the surgeon. You will find that our friends, who have heard what we have said and read what we have written, rarely ever send us a case for operation. The men who have seen us operate once or twice are the ones that are most likely to send us cases—men who treat diseases of the nose, eye and ear, diphtheria and scarlet fever—specialists in these departments—they send us operations; but the men who are only familiar with our expressed views seldom send us a case for operation.

Dr. OPIE, in closing the discussion, said: While I have been benefited by the discussion regarding the use of the drainage tube, I, nevertheless, feel apprehensive about the results following its use. There is a good deal to be said on both sides of the question. I am sure Dr. Price has good success with it, because, with his skill as a surgeon and by careful manipulation of the tube, he counteracts and does away with the dangers which overtake other surgeons. I fear the doctor is doing more harm than good with his talk here before young men about the drainage tube. I seriously regret to hear him belittle the work of the laboratory physician. I am very sorry that he repudiates the germ theory of disease and overthrows the idea of antiseptics. At any rate, if he does not believe in that, he must believe that some good has been developed out of Listerism and our knowledge

¹ February and May, 1891.

of microscopy, which he seems to ignore. When a drainage tube is inserted inside of the abdominal cavity, it rests on the most sensitive surface of the whole human body; moreover, this foreign body (tube) leads into a cavity which is never open except through violence. Dr. Price tells us that a clean doctor will make it a clean mechanical appliance. This cannot be true, since by keeping the cavity open by a patulous tube he invites the ingress of air, and, by bruising the tissues, he makes them a paragon field for the cultivation of septic germs. He says a clean doctor will keep a clean tube. It is impossible to keep a tube typically clean when in the abdomen. His argument is wrong. I believe, if the doctor would drop his drainage tube, he would be more successful than he has been. I predict that in less than five years he will not insert a drainage tube; that he will be more open to conviction and will study his position more thoroughly, and that he will keep on doing even more good than he has done heretofore.

Dr. GEORGE ENGELMANN, of St. Louis, Mo., read a paper entitled

THINNESS OF UTERINE WALLS SIMULATING EXTRAUTERINE PREGNANCY.

He said there are many difficulties in the way of a positive diagnosis of early pregnancy, even in cases surrounded by conditions less unusual; but they assume alarming proportions when aggravated by the curious complications which may arise in individual cases, and, above all, when conditions are simulated in which delay is dangerous and operative interference seems called for, when a decision is urgently demanded—a

decision upon which a life, and perhaps two, may depend.

While the auditor may criticise at his leisure, and readily differentiate the conditions depicted, it is only he who is to pronounce and to act who can realize the difficulties of this entangling and knotty problem.

CASE I.—The patient, 32 years of age, had borne three children in the six and a half years of her married life—the youngest, twenty months ago, which she was still nursing, and the menstrual flow had not as yet reappeared since the birth of this child. The patient came to the clinic for relief from a variety of discomforts from which she had been suffering more or less for the past three months. She complains of sick-headache, vomiting spells, fulness of the stomach, belching after meals, and an intermittent swelling of the abdomen, a pain in the groin appearing before each swelling, and a small tumor above the right groin, which she had first noticed three weeks ago, and, as she stated, “then suddenly made its appearance.” Examination revealed large varicose veins over the lower limbs; a solid, round, movable tumor above symphysis and right groin; the cervix low and large; the uterine body thickened, lying low in the pelvis, with a certain mobility, independent of the superimposed tumor; an applicator entering three and a half inches slightly ante. Notwithstanding the wine color of the pronounced cystocele and the cervix, pregnancy seemed out of the question, and the tumor was diagnosed as most probably a dermoid of the right ovary, hardly one connected with the uterine wall. In the course of an examination, two weeks later, there was

revealed a very different condition of affairs. The tumor had disappeared, and a foetus was found in the uterovesical space, freely movable, floating about, the small parts being distinctly felt as if underneath a wet towel, both through the vagina and abdominal walls. So distinct did the small parts appear to the examining finger, that it seemed impossible to realize that even as much as a thickness of the vaginal tissues should intervene, and the abdominal walls must certainly have been very much attenuated to disclose the foetal parts with such distinctness. A probe showed the uterine cavity free six and a half inches in length, still slightly ante, but never curving forward in the direction of the previous tumor.

The treatment for the supposed subinvolution was discontinued, the patient warned to keep quiet, and to notify Dr. Engelmann upon the occurrence of any abnormal symptoms. He believed the case to be one of ectopic gestation either within the broad ligament or in the abdominal cavity after tubal rupture, marked by the sudden appearance of the tumor five weeks ago, yet he was not sufficiently positive to warrant immediate resort to the knife; and well that he did not do so, as persistent treatment and repeated examinations resulted in labor-pains and the delivery of a five-months' foetus in a most correct and natural manner.

CASE II.—A nervous, anæmic lady, 26 years of age, who had suffered more or less from pelvic inflammation even during her first pregnancy, some years ago, was now in a distressing condition of nervous and physical prostration. He was summoned in

consultation with two eminent gynæcologists to determine the nature of an enlargement in the left groin that seemed threatening in character, which was most probably a tube distended by gestation or suppuration. A distinct history of inflammation was wanting, and the possibility of pregnancy indignantly denied. Menstruation for the past three months had been irregular and unusually painful. The breasts were flabby, free from pain or discoloration, and no evidence pointing to pregnancy could be detected, were it not for a very trifling discoloration near the urethra. In the very much emaciated body a cyst-like tumor could be very fully outlined as it extended from the region of the left ovary downward across the symphysis toward the right groin, of a most unusual consistency, which he could liken to nothing but a sac of the consistency of the human bladder, partially filled with fluid. The uterus was hard and could be followed for some distance beyond the vaginal insertion, drawn to the left by old adhesions; the cervix, likewise, was hard and not even the mucous membrane thickened or softened. No connection could be detected by bimanual examination between the hard uterus and the superimposed movable sac. After the administration of an anæsthetic, and a thorough relaxation of tissues, the flabby sac was recognized as the distended fundus of the uterus in left lateral anteflexion, the cervix and lower segment of which were hard, in the condition such as we might find as the result of a chronic metritis and endometritis. With a delicate, pliable applicator, wrapped with cotton, he readily followed the curves of the uterine cavity anteri-

orly, while toward the left side again curving forward and over toward the right groin, its point appearing apparently underneath the abdominal walls at the extremity of the unquestionable sac. The diagnosis of a uterine pregnancy of four months was soon confirmed by the motions of the child, which revealed themselves to the mother, and later by delivery of a healthy infant at term.

In both cases we have an exhaustion and weakness of tissues. In Case 1 the result of pregnancies following each other in rapid succession. In Case 2 the sequence of anæmia and general debility in connection with the utero-ovarian disturbance. The possibility of pregnancy was denied, and the usual symptoms were wanting, with the exception of the wine color in Case 1, in which the menstrual flow had never appeared since the birth of the last child, which the woman was still nursing. In Case 2 the flow persisted, but was changed in character for the past three months, being irregular and far more painful than usual, but not one of the symptoms of pregnancy was present which had been so distinct in the previous gestation. In both cases a tumor appeared over symphysis and groin of one side, which, be it well noted, was movable to a certain extent, independent of the underlying uterus.

In Case 1 the tumor disappears, and we find a foetus apparently floating in the abdominal cavity, directly impinging upon the examining finger, as it were.

In Case 2 it is a soft sac like a bladder partially filled with fluid. In both cases the cervix and the uterine body can be traced under the tumor

for some distance, and only a forced examination under chloroform reveals the connection between the hard lower segment of the uterus and its distended and attenuated fundus.

The curious conditions here revealed seem due to the distention and extreme attenuation of the uterine fundus, with a hardness of the lower portion of the uterine body and cervix and a localization of the ovum within that extremely attenuated fundus, which has dropped down until it rests within the utero-vesical fold. So flabby is this tissue that the fundus containing the ovum can be moved without disturbing the underlying organ, and even when this fundus was contracted into a mass to be likened in solidity to a fibroid, as it was in the early periods of Case 1, the portion of the uterine wall which united this with the lower segment seems so relaxed as to admit of a mobility to the fundal tumor independent of the underlying portion. The conditions bear no resemblance whatsoever to those of a pregnant anteфлекed uterus.

In Case 1 no uterine tissue whatsoever could be detected about the foetus, and in Case 2 the uterine wall appeared as a membranous sac. In both cases a hard uterus seems to underlie this pathological structure.

Much as he dreads and discountenances the metallic sound, he would urge a pliable applicator wrapped with cotton and sterilized or rendered antiseptic for the purpose of discovering the direction and extent of the uterine body. If properly used it will cause no more disturbance than it did in Case 2 in the speaker's own hands and those of his colleagues with whom he had examined the patient, and he

believes it to be a valuable aid in the detection of pregnancy to be resorted to in doubtful cases without fear of unpropitious sequences.

THE SURGICAL TREATMENT OF ANTERIOR DISPLACEMENTS OF THE UTERUS.

Dr. C. A. L. REED, of Cincinnati, read a paper on this subject. He said that anterior displacements of the uterus, when they exist to the pathological degree, are the appropriate of the gynæcic art. It is indeed true that many wombs lean far forward without inducing symptoms, but it is likewise true that many of them that are thus malposed do entail symptoms, objective and subjective, that frequently baffle our resources. If it is a misfortune, too, that of all the many displacements to which the womb is liable, those in which the organ deviates anteriorly to the normal axis are vastly the more prevalent. Thus, in an aggregate of 494 cases by Nonat, Meadows, Scanzoni, Valleix and Hewitt, quoted by Thomas and Munde, there were 294 antelexions and 180 retroflexions, and ten lateroflexions in a total of 337 cases. As the latter authority is disposed to look upon antelexions in their minor stages as a physiological (even congenital) condition, it is legitimate to infer that his statistics are based upon observations of displacements in the pathological degree. The conclusion is forced upon us, then, that of all the displacements of the uterus, those of the anterior variety are the more frequent; while the records of practice will force us likewise to the conclusion that of all the womb displacements those of the anterior variety are less amenable to

treatment than are any of the others. In the treatment the term *surgical* is employed in contradistinction to any method of treatment by pessaries, tamponade or electricity. It may be premised that all surgical methods devised for the relief of these conditions should be directed first to the removal, when practicable, of the causes of the diseased conditions proper, and, finally, to the readjustment of the diseased organs to the normal physical forces of the pelvis.

In conclusion the author desired the association to consider

(1) The ætiological relationship of contracture of the utero-sacral ligaments to antelexion.

(2) The possibility of overcoming this condition by such conservative measures as rest, pelvic depletion and appropriate manipulations.

(3) The feasibility of removing the obstructive dysmenorrhœa and the sterility usually incident to these cases by the plastic operation which he had described.

(4) The inexpediency of forcible dilatation for the relief of these cases and its inability to effect a permanent cure.

Dr. W. D. HAGGARD, of Nashville, Tenn., read a paper on

THE PART THE SHOULDERS PLAY IN PRODUCING LACERATION OF THE PERINEUM, WITH SUGGESTIONS FOR ITS PREVENTION.

He offered the following suggestions:

(a) The patient should occupy the left lateral decubitus, at least during the second stage of labor.

(b) Overcome rigidity of the vulvar outlet by the judicious use of chloroform.

(c) The presenting part of the child should be supported and not the perinæum during the passage of the head and shoulders.

(d) Support the head by pressing it well up under the symphysis pubis, by placing the right thumb in the rectum, and fingers of the right hand expanded over the occiput.

(e) To retard the exit of the shoulders, pressure should be applied to the trunk and shoulder by placing the index and middle fingers of the left hand in the rectum, with the thumb in the vagina to restrain its exit.

(f) Support the head and neck by pressure well over the symphysis pubis.

THIRD DAY—AFTERNOON SESSION.

A CASE OF INDUCED ABORTION FOR THE NAUSEA AND VOMITING OF PREGNANCY, WITH REMARKS, was the title of a paper read by CHRISTOPHER TOMPKINS, M.D., of Richmond, Va.

August 1, 1885, he was called to see Mrs. J., a lady of culture and refinement, blonde, 24 years old, and, as nearly as could be ascertained, three and a half months pregnant with her first child. On inquiry, he elicited the following history:

Born in the mountainous part of Virginia, she had an active outdoor life, and grew up to be a woman of good height and of round and full figure. Naturally vivacious, of a quick but kind temperament and unusual beauty, she was well fitted to be a belle in society, and, as such, saw much of the gayety and dissipations of the fashionable world. January 14, 1884, she was married. A bridal tour in the South of about two weeks was taken. While in the city of New

Orleans, in stepping from the platform of a car, she sprained her ankle. This, although treated immediately by a physician of that place and subsequently in this city, caused her great suffering. Finally, refusing to yield to the usual remedies, the part was put in a plaster cast—she went about on crutches—and after many months eventually recovered. In the meantime she became pregnant, and from the first was attacked with nausea and vomiting. Mild in the beginning, it gradually increased in gravity till she sent for me on the 1st of August, 1885.

Her husband stated that she had had fever for two weeks. Dr. Tompkins found her in bed, and learned that she had been there for days. Her figure was not robust and her face thin and attenuated. What little she had eaten in the past ten days or two weeks had been apparently rejected, her temperature one degree above the normal, tongue foul, sordes on the teeth, and the breath of a sour and bilious odor. The pulse was fairly good, considering her condition. Even the mention of food was distressing to her, and the sound of the dinner bell, though far off from her, caused such distress that its ringing was discontinued by the family. The bowels had throughout her pregnancy been constipated, only moving once in two or three days.

Although continuously retching, very little or no blood had been seen in the vomit, except on two occasions, and then not a great deal, and such as there was was of a florid, scarlet color.

No medicine had been given and no treatment taken, except the occasional use of lime-water, which, she said, "did no good." A diet, consisting of cream and brandy and beef-tea, was advised.

Prescribed :

R. Calomel,	gr. x.
Sodii bicarb.,	℥ i.
Pulv. No. 1.	

Sig.—One dose.

August 2. Patient not improved and has had no operation. Could not tell positively whether medicine had been retained or not.

R. Pill co. cath., No. 4.

Sig.—Take two, and repeat in twelve hours.

August 3. Patient had taken all of the above pills as directed, and had been well operated on twice.

Felt better, the breath was of natural odor, the tongue clean and the temperature normal, but no improvement in the nausea and vomiting, and, literally, nothing remained in the stomach. Prescribed oxalate cerium in two-grain doses every six hours, Buffalo lithia water and small pellets of ice. Patient complains of some burning, painful sensation about epigastric region and along the œsophagus. All the various articles of diet known to act favorably on the stomach were canvassed at this visit, and it was found that the mention of most of them was enough often to excite distressing nausea.

August 4. Patient in no way improved. On the contrary, there is marked evidence that she is rapidly weakening. The nausea and vomiting have gone on uninterruptedly, the only thing administered that remained on the stomach being a few teaspoonfuls of lithia water and a few pellets of ice, and these oftener than otherwise were rejected, although only given at long intervals because of the distress they had occasioned. Prescribed one-drop doses of creosote, to be repeated every six hours. The body was to be rubbed with the palm

of the hand, lubricated with olive oil, the friction to be particularly vigorous along the spine.

11.30 P.M. Was sent for in the night. Patient worse and violently attacked with convulsions of a nervous character. Vomiting incessant, and burning pain along the track of stomach and œsophagus. Finding it useless to try further medication by the mouth, an enema, containing milk, brandy and ten drops of laudanum, was prepared, given and retained. Shortly after, the patient growing more composed, he took his leave, directing the injection to be repeated every six hours, with the addition of a raw egg, well beaten up.

August 5. On this treatment, stomach at perfect rest, patient passed a more comfortable day than usual, getting some sleep, vomiting less, but still not free from nausea; substituted McMunn's elixir of opium for the laudanum; ordered Buffalo lithia water and small pellets of ice.

August 6, A.M. Patient evidently growing weaker, more suffering. Enema came away, and appeared by odor and otherwise (except for decomposition) the same as injected. Stopped the egg and McMunn, and used milk with solution of bromide potash, fifteen or thirty grains, according to symptoms; made digital vaginal examination; found uterus low down in pelvis; slowly raised it up with finger and left it elevated and freely movable; also applied small blister to epigastrium.

August 7. Patient's condition very unfavorable; nausea and vomiting, if anything, worse than before. Sordes about mouth, pulse very weak (140 or more), dry and brownish tongue. Extremities disposed to coolness;

fever, which had been persistent, greatly increased. Thinking the case one of the greatest gravity, and that the question of abortion could no longer be deferred, invited Drs. J. B. McCaw and Aaron Jeffery to meet him in the afternoon in consultation. Patient could not retain the lithia water or even a pellet of ice the size of a pea.

P.M. No improvement. All agreed that abortion must be induced, in order to give the patient a last chance for her life. Ordered nutritive enemas and meat-juice, to each of which was added 3j fluid extract of ergot.

August 8, 10 A.M. Patient not suffering so much, but steadily growing weaker. Speculum examination revealed the os uteri apparently healthy. To the finger the os was soft and patulous, but with little or no dilatation. A few pains similar to labor-pains were reported during the night, but not strong. Passed uterine probe and ruptured the membrane. A gush of fluid followed; introduced sea-tangle tents, and behind them a tampon.

6 P.M. Condition about same as above. Under influence of chloroform, removed tents, Drs. McCaw and Jeffery assisting. Os uteri dilated size of little finger; introduced Barne's bags and gradually opened the os to something more than the size of index finger, and with placental forceps removed the fœtus (apparently $3\frac{1}{4}$ months old) and membranes; the interior of the uterus was, to the tip of the finger, as smooth and even as the speaker had ever felt it under similar circumstances, and the muscular fibres acting well; the organ remained well contracted after the operation.

8 P.M. Has not rallied, but pulse is good, or better, than before operation.

Nausea and vomiting still continue; ejected matter now looks dark instead of white, as before. Suspect color due to presence of decomposed blood.

9 P.M. Has had one severe and several moderate fainting spells. Hypodermics of brandy, hot bricks to extremities, low head, etc. In about half or three-quarters of an hour the disposition to syncope disappeared, and the patient's condition seemed improved. Patient took a few cat-naps, and the nausea and vomiting gradually ceased to be annoying, evidently less frequent and less violent. At about 12 M. she passed her water in bed-pan easily and freely. Ordered enemas of whiskey, Valentine's meat-juice and milk every three hours. Dr. Tompkins remained with her until within a few minutes of 4 A.M. of the morning of August 8.

August 8. Dr. Jeffery took charge after the speaker's departure, and from his report it was learned that at 7.30, on looking at her face, he noticed an altered expression. (Only a moment before he had examined her and found her as usual). Feeling for her pulse, he discovered it was gone. He made a faithful effort to save her life, but in spite of sinapisms over the heart and to extremities, repeated hypodermic injections of brandy and ammonia, and enemas of the same, and warm (dry) applications to all of the body, she showed no effort to rally. Failing in these, her alarming condition caused him to send for Dr. Tompkins, who saw her about 9 A.M. She recognized him and appealed to him to help her, and to help her quickly. He did what he could, but it was too plain that death would claim her as his own. Some liquor was swallowed

and retained, but his efforts were without avail, and she died in about twenty minutes after he entered the room.

REMARKS.—This case is reported principally because it was an unsuccessful case, and because he wished to disabuse the minds of those who are not experienced in such operations of the notion, commonly believed, and often expressed, that the induction of abortion for the nausea and vomiting of pregnancy is, in skilful hands, an undertaking devoid of danger and necessarily attended by success. In this lady's case he is of the opinion that death was the result of protracted debility and enfeebled constitution, due to her long confinement and suffering, first, from the injury to her ankle, from which she had not recovered when she became pregnant and was attacked by nausea and vomiting—this last continuing till her death. Under such circumstances the outlook was indeed very unfavorable, for to the shock of operation and depression incident to the use of chloroform there were added fever and protracted prostration, both from the injury to the ankle and from want of nutrition, the result of the long-existing nausea and vomiting.

He had before and since operated,

and with success, for the nausea and vomiting of pregnancy, upon women whose apparent condition was much worse than that described in this case, but without the history of a previous injury or disease. The prognosis, always uncertain, ought, when the case is so complicated, to be of the most guarded kind. The practitioner should not, however, hold his hands on this account, for the operation affords the poor sufferer the only opportunity of relief. In conclusion, he would state that he now uses metal dilators, instead of tents, and completes the operation at one sitting; and he is likewise convinced that the least possible chloroform used, the better the result.

The following officers were elected :
President—Dr. McFadden Gaston, Atlanta, Ga.

First Vice-President—Dr. Cornelius Kollock, Cheraw, S. C.

Second Vice-President—Dr. George Ben. Johnston, Richmond, Va.

Secretary—Dr. W. E. B. Davis, Birmingham, Ala.

Place of Meeting—Louisville, Ky., second Tuesday in November, 1892.

Chairman of Committee of Arrangements—Dr. L. S. McMurtry, Louisville, Ky.

CORRESPONDENCE.

To the Editor of the ANNALS OF GYNÆCOLOGY AND PÆDIATRY:

DEAR SIR: At a recent meeting of the Obstetrical Society of Philadelphia a paper, reported in full in the ANNALS OF GYNÆCOLOGY AND PÆDIATRY, February, 1892, entitled "Intestinal Inju-

ries in Abdominal Surgery," was read, and while many complicated cases make it often necessary to deal with intestinal complications, the cases were somewhat appalling, and the operator is to be congratulated that his patients recovered in spite of treatment.

In reviewing the general instructions given, it seems as though too much confidence was placed upon the adhesions which may form around an injured bowel—for instance, the instructions are: “If the tear has extended into or through the muscular coats, which is not infrequently the case, especially where the adhesions have been well-organized ones, or where they have been of such a rotten character that they almost drop apart as they are handled, it becomes imperative that sutures be placed so as to bring the lacerated edges together, provided only that the injured surface be not too great in extent, or that the surrounding tissue be not too much diseased to stand the tension of the stitches.” If either of these latter conditions exist, the author recommends either resection or placing the bowel in proper position, trusting that a complete perforation may not take place.

Subsequent cases reported show he relied most upon the latter method. Resection, or anastomosis, has been shown, in the hands of other operators, to be the safest, where the bowel has been too much injured to restore the continuity of its walls and retain its calibre. For that reason it seems scarcely possible, if good results can be obtained by so safe a method, that reliance should be placed upon the possible formation of adhesions to a neighboring knuckle of intestine, especially when the painful effects of intestinal adhesions have so often been demonstrated, making it frequently necessary for the patient to submit to a second operation for their release in order to make life bearable.

To place a drainage tube near such weak points, where mucous membrane

forms the only barrier between intestinal contents and abdominal cavity, trusting that if adhesions fail to take place to some neighboring coil, other adhesions forming will confine the extravasated fæcal matter, which will thus find its escape through the tube—such teachings justly earn the rebukes which have been directed toward the drainage tube, as being a cause in the production of fæcal fistula, as well as questions raised against the ultimate results of pelvic surgery.

The author continues to mystify the reader regarding the use of the drainage tube. He says: “Of course, if there has been leakage of the intestinal contents into the peritoneal cavity, it goes without saying that careful irrigation should be practised. Provided perfect closure has been secured and no other indications arise, drainage is unnecessary.” It is difficult to understand what is meant by “other indications.” Where adhesions have existed to the degree to produce such injuries to the bowels—even though perfect closure has been attained—it is still necessary to provide for the subsequent oozing, as well as for those portions in the pelvis stripped of their peritoneal covering during the course of enucleation, for it is well known that the peritonæum is as tolerant as raw surfaces are intolerant of fluids, and that the latter often become the nucleus for a peritonitis, if the fluids are not removed.

What a hopeless state of dread and confusion the mind of the young operator must be in when he reads the reported cases of the author! One case, a difficult and tedious one, where a suspicion of bowel injury arose during the operation, but was rejected on

careful investigation. The following day a nutritive rectal enema came up through the drainage tube. How much was left to be taken care of by the previously wounded peritonæum? Another case is cited where, in the course of enucleation, the sigmoid flexure was torn entirely through, and the upper or proximal end was closed under the impression that it was only a laceration. It seems almost incredible that one accustomed to doing pelvic work should fail to recognize the bowel, and especially, with the open end in hand, proceed to close it up. The after-treatment was no less remarkable. After it was discovered that the bowel was torn through to its mesenteric attachments it becomes marvellous that good results could be expected by placing the torn ends in apposition, using no stitches, utilizing drainage tubes as splints, packing omentum and intestines around to fill

out spaces. Such proceedings simply make the surgeon shudder at the possible sequelæ arising, even though the patient escapes septic peritonitis, and has a free passage of intestinal contents. The picture of such displaced adherent organs has other nightmares in its wake for both patient and surgeon. There is still another phase to look at, viz.: the young student, who often relies too much on the judgment of his elders, will frequently imbibe teachings which often become unseen stumbling-blocks to successful work before he begins to realize that he must think and study for himself; that results must be as carefully studied as the technique; that not until he can feel that his surgical interference has resulted in a lasting benefit to his patient can he speak knowingly of recoveries or death.

MARIE B. WERNER.

International Periodical Congress of Gynæcology and Obstetrics.

THE Belgian Society of Gynæcology and Obstetrics, under the patronage of the Belgian Government, has taken the initiative in organizing "The International Periodical Congress of Gynæcology and Obstetrics," the first session of which will be held in Brussels, September 14 to 19, inclusive, 1892. Three leading questions will be offered for discussion:

(1) Pelvic Suppurations; Referee, Dr. Paul Segond, Paris.

(2) Extrauterine Pregnancy; Referee, Dr. A. Martin, Berlin.

(3) Placenta Prævia; Referee, Dr. Berry Hart, Edinburgh.

Fees: Members participating in

first session, thirty francs. (This will entitle the holder to a copy of the Proceedings of the Congress).

Founders (Life Membership), 300 francs.

In connection with the Congress there will be an International Exposition of instruments and appliances pertaining to gynæcology and obstetrics.

All communications pertaining to this Congress should be mailed direct to the American Secretary, who will promptly furnish all information. All notifications to be forwarded should be received by August 1.

Everything points to a great suc-

cess in this Congress. Though notices concerning it have been rather late in this country, already men of celebrity have promised to visit and contribute papers. Among the many foreigners who have written to the Secretary-General, indorsing and promising support to the undertaking, may be mentioned the following eminent men :

BELGIUM.

De Roubaix,	Sacre,
Mirriar,	Pigeolot,
Charles,	Sanpart,
and others.	

FRANCE.

Pean,	Demous,
Fochier,	Auvard,
Doleris,	Pozzi,
Tarnier,	Budin,
Terrillon,	Terrier,
and others.	

ENGLAND.

Lawson Tait,	Wm. Priestly,
Champneys,	G. Elder,
J. White,	Watt Black,
Thornton,	Doran,
Spencer Wells,	Bantock,
and others.	

GERMANY.

Martin,	Leopold,
Sänger,	Gusserow,
Veit,	Winckel,
Hegar,	Kaltenbach,
Freund,	Heyder,
and others.	

ITALY.

Porro,	La Torre,
Mangiazalli,	Bozzi,
Morisain.	

HOLLAND.

Stokvis,	Treub,
Nyhoff.	

AUSTRIA.

Pawlik,	Albert,
Chrobuk.	

FINLAND.

Engstrom,	Heinricius,
Pippingohold.	

NORWAY.

Statfeldt,	Howitz,
Meyer.	

SWITZERLAND.

Reverdin,	Vuillet.
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SWEDEN.

Saliss,	Westernark.
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RUSSIA.

Slaviansky.

TURKEY.

Chatazian.

Further details will be furnished as soon as received.

The Section on Gynæcology and Abdominal Surgery of the Pan-American Medical Congress.

THIS section has been organized as follows: Executive Chairman, Dr. William Warren Potter, Buffalo, N. Y.; English-speaking Secretary, Dr. Brooks H. Wells, New York City; Spanish-speaking Secretary, Dr. Ernest W. Cushing, Boston. Foreign Secretaries so far appointed: *The Argentine*—Dr. Dn. L. C. Maglioni Llobet, Victoria 737, Buenos Ayres; *Brazil*—Dr. Dn. Luiz de Cunha Féiho,

Rio de Janeiro; *British North America*—Dr. James F. W. Ross, Toronto, Canada; *U. S. of Colombia*—Dr. Dn. José M. Buendia, Calle 10, No. 212, Bogota; *Nicaragua*—Dr. Dn. Juan I. Urtecho, Calle Real, Ciudad Grenada; *Spanish West Indies*—Dr. Dn. Gabriel Casuso, Virtudes 37, Habana, Cuba; *Uruguay*—Dr. Dn. Enrique Penéy, Uruguay 371, Montevideo.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of March 3, 1892.

THE PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

DR. B. F. BAER presented the specimens and related the following cases:

A CASE OF POLYCYSTIC DEGENERATION OF THE RIGHT OVARY, COMPLICATED WITH MITRAL DISEASE AND TUBULAR NEPHRITIS.

Mrs. P., æt. 60 years; married; two children, youngest 20 years of age. Puberty occurred at 15. The menopause occurred at 47, and since then she has not been in good health, suffering considerable pain in the lumbar region and showing evidence of organic disease of the heart. About two years ago she first noticed that her abdomen was enlarging in the lower portion, and in July, 1891, a diagnosis of ovarian tumor was made by Dr. Donohue, of New Brunswick, N. J.

Examination of the urine showed it to contain albumin and hyaline casts, and there was a distinct mitral regurgitant murmur. At that time, on account of her weak condition and the cardiac and nephritic disease, she was advised by Dr. Donohue not to undergo an operation, but to wait until she had regained her lost strength, if possible. During the summer her general condition improved, but the tumor continued to increase in size, and on October 15 she was sent to me and entered my private hospital. She presented an appearance of extreme anæmia and had a waxy hue of countenance. The abdomen was as large as at the full term of gestation and showed the

physical signs of encysted fluid. The uterus was normal in size, but not freely mobile. I confirmed Dr. Donohue's diagnosis of ovarian cyst. She was informed that the prospect of recovery was not bright, on account of her age and the kidney and heart complication; but she took the risk, and on October 19 the operation was performed. The tumor proved to be polycystic and weighed about thirty pounds. There were some pelvic adhesions, and the tumor was deeply attached to the broad ligament. It was necessary to enucleate it, to form a pedicle, which prolonged the operation somewhat, but she stood it well and made a good recovery, going home within five weeks, where she remains well at this time. A letter received from her husband a few days ago states that she is in better health than she has been for years.

I have not hesitated to operate in those cases where kidney and heart complications exist, and I have not yet had cause to regret it. The patients have stood the operations as well, and have recovered as quickly, as where such complications have not been present.

Dr. Baer also presented

A LARGE OVARIAN TUMOR, WITH DERMOID ELEMENTS, WHICH WAS REMOVED FROM A LADY ÆT. SEVENTY-SIX YEARS.

The patient had been married many

years, but had never been pregnant. Four years ago she found that her abdomen was increasing in size, and it has been gradually enlarging since. Her physician, Dr. Frace, of Clinton, N. J., made a diagnosis of ovarian cystoma, and brought her to me in December, 1891. My examination confirmed his diagnosis.

Laparotomy was performed at my private hospital, on December 28, 1891, a polycystic dermoid tumor of the left ovary being removed. The tumor was universally adherent to the anterior abdominal wall, and, having a very short pedicle, enucleation from the broad ligament was necessary.

She made a good recovery and went home in four weeks. In my experience the age of the patient has not weighed against recovery. I have frequently operated upon patients who have passed sixty and approaching seventy years of age, but this was the oldest patient upon whom I have performed laparotomy. She made as good a recovery as the youngest patient upon whom I have performed ovariectomy, who was sixteen years of age.

The dermoid element in this tumor is of some interest, because, since it doubtless existed congenitally, it remained quiescent seventy-two years.

Dr. Baer also presented the following case of

DERMOID OVARIAN TUMOR.

Mrs. D., æt. 32; married; several children, last one eight years old. This patient was sent to me by Dr. Kellar, of Bangor, Pa., and was thought by several physicians to have a fibroid tumor of the womb. Since the birth of her last child she has complained of great pain, deep in the pelvis, and

in the left ovarian region. The pain has increased in severity, and she has been laid up on several occasions with symptoms of pelvic inflammation; during these attacks she suffered greatly from rectal tenesmus, and at all times has a feeling as if the bowel were obstructed, rendering defecation very difficult. During the last two years she has had profuse uterine hæmorrhages, lasting as long as two weeks.

Examination showed the uterus to occupy a position posterior to the symphysis of the pubes, and to be held in that position by a mass located directly posterior to the uterus, which filled the hollow of the sacrum and appeared to be connected with the anterior wall of the rectum. The mass was firm and elastic, as large as a cocoanut, and conveyed to the touch a sensation very much like that of a fibroid tumor; but further examination showed that it had no connection with the uterus, nor did it seem to have any relation with the ovaries. It was firmly fixed to the anterior wall of the rectum, and appeared to be a growth from the latter organ.

A diagnosis of probable suppurating, or dermoid ovarian tumor, was made, and immediate removal was advised; she entered the Polyclinic Hospital for that purpose. Laparotomy was made January 18, 1892, and after a most difficult dissection the tumor was released and removed. It proved to be a dermoid of the left ovary. The right ovary being diseased was also removed. The patient made an uninterrupted recovery and is entirely relieved of the symptoms from which she has suffered. This is the second case that I have operated upon within a few months where a

dermoid tumor was mistaken for a fibroid.

DISCUSSION.

DR. CHARLES P. NOBLE :

I am glad to hear of the good results in these cases complicated by Bright's disease. I have seen a good many cases of pelvic disease with Bright's disease, and in the inflammatory cases I have refused to operate. About ten per cent. of the women that come to me, whose appendages otherwise I should remove, have Bright's disease, and they are not operated on. I have also refused to operate on several cases of ovarian tumor for the same reason. In these cases, however, the microscope indicated an advanced degree of kidney disease. The gentleman who made the urinary examinations diagnosed an advanced degree of kidney disease, and my prognosis being that they would almost surely die if the operation were done, the patients elected not to be operated upon. I should operate myself where the kidney lesion was not marked, for in many cases the pressure from the tumor will induce a mild kidney inflammation, with albumin and casts. If a case of ovarian tumor presents itself, with advanced Bright's disease, the prospective duration of life is so short, and the prospective danger of abdominal section is so great, that it is hardly worth while for the patient to undergo it. I am, however, glad to hear of these good results, and this may induce me to give a more favorable prognosis in subsequent cases.

I would ask Dr. Baer whether or not he used ether in these cases. I, in common with many others, have been much afraid of ether in kidney cases.

I have had two women die with suppression of urine after operation, in whom kidney trouble was present. I must also say that I had one die in which chloroform was used. It has been a question with me whether we have not abused ether too much in these cases. I find in reading foreign journals that, in those countries where chloroform is used almost entirely, the surgeons have the same fear of suppression of urine in kidney cases after serious operations. It seems to me that the exposure of the patient and the shock of the operation have as much to do with the suppression of urine as has the anæsthetic. It is claimed by chemists, for instance Dr. Wolff, that ether is not eliminated by the kidneys. It has long been the opinion that ether is eliminated in this way, but Dr. Wolff assures me that that is a mistake. This is also somewhat in favor of the fact that we have abused ether unduly in these cases as the cause of suppression of urine.

DR. JOSEPH HOFFMAN :

I arise to correct an apparent error in regard to the pathology of obscure dermoid tumors. Dr. Baer said that it used to be thought that dermoid tumors were most frequent in young people. The reason that they have been found in the older cases is because they were not found soon enough. If the pathology of dermoid cysts teach us anything it is that dermoid structures are necessarily embryonic, and the dermoid tumor must, therefore, be concomitant with procreation, or at least with foetal existence. That, of course, contradicts the implied pathology so far as concerns the late occurrence of these growths.

Some time ago I removed a large sarcomatous kidney under the use of ether. The tumor was as large as my head, and the legs were œdematous. The day after the operation the patient passed three times as much urine from the remaining kidney as she had done any day in the previous six months. So far as ether is concerned, I have learned to fear it, not so much in kidney trouble as in lung trouble. There I have found it dangerous in the extreme. In one case, I know that I saved the life of a patient by taking away the ether and substituting chloroform. I am not quite sure that in that case the use of ether had not been excessive. I am at a loss to understand how the idea that ether was excreted by the kidneys came to be entertained. I am sure that any one who has noted the urine after an operation will find that it never smells of ether. The conclusion is, therefore, that ether is not excreted by the kidney.

DR. GEORGE E. SHOEMAKER:

In regard to the pathology of dermoid tumors, it may be said that one reason they may not be met with until late in life is, because the tumor frequently does not increase in size until late in life. Malignant disease in a dermoid may be the cause of a rapid growth in an otherwise small tumor.

We have all refused operation in cases of nephritis, but many operations may be done with impunity if the patient is not too long exposed and not drowned with ether. I think that one of the causes of death is that the patient is not sufficiently clothed about the shoulders and legs during the operation. This often occurs

while the surgeon is getting ready, or while the patient is being prepared by the nurses, so that she is chilled when the operation begins. This may produce congestion of the kidneys. I operated on a case with nephritis last summer and had a most excellent recovery.

Another resource which I think we have at our command for diminishing risk in cases of heart trouble is the use of the Trendelenburg posture. Heart failure, during an operation, is partly caused by anæmia of the heart controlling centres in the medulla oblongata. If we have the patient in this semi-inverted position more blood is in the brain, and this helps to sustain these nervous centres. A short time ago I operated on a patient with peritonitis, who was weak and had a distinct mitral lesion. The Trendelenburg posture was used, and I was much gratified with the way in which the heart behaved during the operation, and the small amount of shock which followed. The pulse was only 30 after a prolonged operation, showing that in all probability the position was of great assistance.

The Trendelenburg posture does not necessarily involve a long incision or a free exposure of the peritonæum. It has other uses than the exposure of the parts to sight, the most important being the falling of the intestines out of the field of operation and out of the way of the fingers. I do not wish to appear as an advocate of this posture in all cases, but to call attention to a probably favorable action on a weak heart.

DR. M. PRICE:

I think that our views in regard to the risk of employing ether in cases

of kidney trouble will have to be considerably modified. It is not uncommon for us to have patients sent to us with peritoneal trouble, and the statement that there is considerable kidney disease. Day before yesterday my brother operated on a woman who had a pelvic trouble, as it was thought, but at the operation it was found that it was an old appendicitis. The head of the colon and cæcum were fused over the top of the uterus, and over the uterus were two or three peritoneal cysts, probably the result of some leakage. That woman had marked albuminuria. He remarked at the time that he believed, instead of ether being a dangerous element in that trouble, that it had proved almost the contrary. That patient did well, and the kidneys acted well after the operation. She passed forty-eight ounces of urine during the twenty-four hours after the operation—a thing which she had not done for months. I have never found in cases of suspected kidney trouble that the use of ether increased the risk at all.

I think that where an opening is to be made sufficiently large to see the whole internal viscera, the Trendelenberg position must be a great improvement; but in most of the pelvic operations that I have seen the opening has not been over two inches in length, and not once in ten operations do the intestines come into view. If a man attempts pelvic surgery with the idea of bringing everything into view he runs a great deal more risk than if he trains his fingers to do this work and to detect pathological conditions from what is normal without seeing the parts.

DR. B. F. BAER:

I use ether in all cases. I think

that ether is excreted by the kidneys, although I have made no experiments on this point. I have never had a patient die from suppression of urine that I know of. I think, even in advanced Bright's disease, if the patient demands operation, she should have the chance. I have operated on other cases where there have been albumin and casts, but this has been the most marked case.

In regard to the Trendelenberg posture, I think it is applicable in some cases. I believe the patient breathes better and that the heart acts better in this position. In two pus cases that I had last week, I was somewhat puzzled as to the condition and thought that I would try the Trendelenberg posture, but I soon returned the patients to the horizontal position, preferring to trust to my finger rather than to the eye. The incision was small, and I could not see much, and could not tell what it was that I did see. At the same time I think that in certain cases this posture is of decided advantage.

DR. G. BETTON MASSEY:

A CASE OF FÆCAL OBSTRUCTION CAUSED BY AN ANOMALOUS ABDOMINAL TUMOR, AND A CASE OF PELVIC ABSCESS, REPORTED AS INSTANCES OF THE VALUE OF CONSERVATIVE TREATMENT.

There are times when a perplexing case drives us to a test of the recent hideous doctrine that no grave condition of the pelvis or abdomen can be treated, or even diagnosed, without opening the abdomen; at such times the temptation is strong to ask the surgeon to cut the Gordian knot of our doubts with his scalpel, and, before we know it, we place ourselves

in the position of urging a patient to submit to a dangerous experiment that is not justified by mortal illness. Too often we live to regret our haste, and to adopt a new maxim: *When about to advise an operation—don't.* The two cases about to be reported differ widely in every respect, except in offering illustrations of what may be done by other means when an operation to establish certainties seemed demanded.

The first case, a single lady, some years past the menopause, was sent to me by Dr. S. S. Maynard, of Frederick, Md., in December, 1890. For two weeks before admission to the Sanatorium there had been partial faecal obstruction, apparently caused by the presence of a hard growth in the pelvis and abdomen. The tumor filled the left half of the abdomen and pelvis, extending from a level with the uterus to the ribs, which were rather pressed out on that side. Unlike usual growths of its size, it did not tend to occupy a middle position, but remained firmly attached to its bed, so firmly, in fact, that a consultant suggested the possibility of its being a sarcomatous growth of the innominate bone. It was of but recent discovery, but had probably existed for a long time. The uterus, which was of normal size, was attached in an uncertain manner to the growth, which presented many of the characteristics of a subperitoneal fibroid that had undergone calcareous degeneration. Extremely hard in consistence, its surface was roughened and irregular. The patient had suffered for a long time from constipation, was sallow, and, though above the medium height, weighed but ninety-two pounds. The journey from home resulted in a

complete obstruction of the bowels, and for two weeks all known means were employed for its relief, including strong galvanic and faradic currents externally and by rectum, and enemas of various kinds, even of coal oil. The distention becoming greater and the vomiting more faecal, a consultation was held with a surgeon, resulting in a determination to persist in the means employed. The current was now administered by means of an internal flexible electrode, passed more than twelve inches up the colon and insulated by rubber tubing that also permitted the injection of a cushion of water before it. Strong faradic currents were thus used and galvanic currents of 20 ma. daily. A small stool was shortly obtained, and the obstruction yielded gradually. As the exact nature of the tumor remained unknown, the case was kept under treatment for two months, strong (150 ma.) galvanic alternative currents being passed through it daily from a pole within the vagina to one on the abdomen. Under this treatment the growth shrank somewhat, measuring at the end of three months a half inch less in both diameters, and the patient's health progressively improved. A letter received from her brother three days ago, a year after her return to her home, reports a continued improvement in health and a gain of thirty-eight pounds in weight since admission. The tumor was said to be still smaller, and the bowel movements regular without cathartics.

The possibility of this tumor being a faecal impaction of the descending colon was frequently considered by me without a conclusion being possible. At no time have the bowel

movements contained any material that was manifestly old.

The other case alluded to was that of a married lady, under 40 years of age, to whom I was called on the 27th of last November, to find her suffering from a suddenly-developed attack of pelvic peritonitis, with high temperature. The onset was sudden and the causation obscure, as two days previously she had been in good health. On the 24th she had exposed herself to cold, and had also assisted in moving some heavy furniture about in the room. About a year previously there had been a miscarriage, followed by apparently complete recovery. The presence of a pelvic peritonitis was manifested by the usual signs, particularly by induration on the left and by a disappearance of the normal lateral folds of the rectum. In spite of the saline treatment and ice and iodine to the abdomen, the general condition became grave, and consultations were freely held with Dr. Thomas J. Yarrow, and, after the abscess opened, with Professor Goodell, who concurred in advising abstinence from operative procedure. The usual symptoms denoting the formation of an abscess continued with unabated force, the upper portion of the rectum showing the near neighborhood of the inflammation, which was, however, too high to give distinct fluctuation. The nurse was instructed to inspect all rectal and vaginal discharges, and some two weeks later we were rewarded with a discharge from the rectum of purulent matter streaked with blood, the true purulent nature of the material being verified by an effervescence when brought in contact with peroxide of hydrogen. The discharge was highly offensive, and

continued to come away in dribblets for about six weeks, the cavity gradually closing and healing from the bottom under frequent enemata of peroxide of hydrogen and carbolic acid. During the process of healing the discharge was imprisoned on several occasions, followed by spontaneous opening of the cavity, as shown by the relation of temperature, pain and discharge. Complete convalescence was finally established, and when the patient got up, a month ago, she looked better than for some years, and is now in perfect health in every respect, without a trace of the chronic invalidism that usually follows an abdominal section, or that might reasonably be expected to follow a healed abscess in this neighborhood.

DISCUSSION.

DR. JOSEPH HOFFMAN:

I am glad that we have a new use for electricity. I am sorry that Dr. Massey did not make the diagnosis in this case, because it is an extremely interesting one, and I think its counterpart is to be found in Flint's Clinical Diagnosis, in which he narrates the case of a patient whose bowels moved only once in six months. I am glad to hear that electricity is a sovereign remedy for constipation. I think it is a mistake to claim any special advantages for electricity in such cases. The same might be claimed for massage and other agents. The fact of the matter is that there was no tumor at all except what was matter which should have escaped when the bowels were moved. No one ever saw a pathological growth that was geometrical in its outlines. Nobody has seen a sarcoma that got well by electricity. It was not a sarcoma. It was not an

osteoma. For the life of me I cannot see why electricity should be brought in. If the bowels can be moved without operation, operation is not necessary. If, as in one case, which has been reported by Dr. Price, the bowels obstinately refuse to move and there is obstruction with all its concomitants, the slow method of electricity to a bowel overdistended and inert is useless. You might as well apply electricity to a rubber hose and expect it to shoot water. In a case of this kind the only thing to do is to operate.

So far as the second case is concerned, that is one of the things that must puzzle anybody. Imagine a person having a miscarriage, and the inflammation being allowed to start up and go on to suppuration, poultices and iodine and so forth being applied *ad infinitum*. Consultation after consultation which did not consult. All that was done on the outside never reached the inside, the abscess being allowed to go on to the discharge of pus. The iodine and the internal remedies had no effect. It was simply delay. The woman was in bed three or four weeks, when the pus might have been evacuated in three or four hours. The abscess might have opened upward, and nothing could have prevented operation. This was simply temporizing. What can we expect if such methods are advocated as coming from common sense? They do not come from common surgical sense. Such methods are not based upon the reasoning and logic that we apply elsewhere. We should not apply iodine or electricity to any other part of the body where we thought that pus was present.

So far as proving anything as to the

efficacy of electricity, these cases prove two things—that electricity has nothing in common with surgery and no business to criticise it.

DR. GEORGE E. SHOEMAKER :

I might call attention to one minor point, that is in regard to the diagnosis of pus by the action of peroxide of hydrogen. The peroxide will cause foaming with any organic fluid, as, for instance, fresh blood; therefore, it is without value as a test for pus.

In regard to obstruction in the bowels, any one who sees these cases as they come into the general hospitals and go out, often through the post-mortem room, cannot fail to be impressed with the danger of delay in some cases. Some get well under simple treatment. I have had a turpentine enema relieve a case in which there had been stercoraceous vomiting for many hours. But contrast the following: An old man walked into a physician's office and said he could not get the bowels moved. The physician sent him to bed on general principles, and in twelve hours the man was dead. There was a twist in the bowel, as demonstrated at the post-mortem, which I saw the next day. Nothing but operation would have saved that case. The death was appalling in its suddenness, occurring, as I say, within twelve hours. Each case must be judged by itself, but relief must usually come soon, if ever.

DR. M. PRICE :

Kinks in the bowels from distention are a common cause of obstruction. This is one of the conditions that we have to meet and exclude if possible. A number of times I have gone to do an operation for what was supposed to be an obstruction of the bowel

where there was simply a kink from overdistention with gas and fæcal matter.

In the case to which Dr. Hoffman refers, I removed one bucketful of fæcal matter. No obstruction could be found. The colon measured ten feet in length and was of large calibre. The man had had some time previous a similar attack and had been relieved by forcible enemata. For that reason we delayed two days, but the distention became so great that we had to operate. An inch and a quarter opening was made in the bowel, and the fæces were forced out for a distance of eight feet. A thorough search was made for the obstruction in the bowel, and the opening sewed up and the abdomen washed out and closed. The next morning the man was found in his fæces, from his heels to his head, the result of the action of the doses of purgative medicine which had been given before the operation. This patient recovered and lived until six months ago, when he died from malignant disease, but I was unable to get a post-mortem examination.

In another case a woman had had two or three convulsions a few days before the attack came on. She was vomiting questionable matter. The abdomen was distended, and the coils of intestine could be felt lying dead, without any perceptible motion. I said to the physician that there was nothing to indicate inflammatory stricture, and I told him to push the enemata, and by morning there had been a number of movements of the bowels, and in a few days she was well. Operation would have been a great mistake in that case. The patient was over sixty, and the fæces could not have been removed.

I operated on another case, that of an old lady with obstruction and fæcal vomiting. I found from one end to the other the colon in a sacculated condition, and the contents of the bowel were in lumps as large as walnuts. These masses could not be forced through the contracted part of the bowel. There were probably fifty of these constrictions, with concretions four times as large on each side of them. It was a hopeless case. So far as the general condition was concerned, it was not affected by the operation, the patient living four or five days longer, and dying from fæcal poisoning.

Treatment of every description should be used, unless you can see by the condition of the patient, and the inflammatory symptoms and the urgency of the case, that an operation is absolutely necessary. The question of operation in obstruction of the bowel is one of the most difficult to decide. We have no business to operate for impaction. If we do we are going to have death. If a kink has occurred, and the contents of the bowel have been liquefied, you may be compelled to open the abdomen and remove the contents. In a case of cancerous obstruction, on which my brother operated, two bucketfuls of semi-solid fæces were removed. The colon presented a series of sacks, distended with fæces, with almost complete constriction between them. In a condition of that kind operation means death, but you cannot always determine its presence beforehand. After using all the measures available, and being convinced that there is no other means of relief, you are justified in making an exploratory incision before allowing the patient to go too far.

DR. G. BETTON MASSEY :

Dr. Hoffman has brought up the question of the nature of the tumor in the first case. He misconceives me when he said it was a geometrical figure; the main peculiarity was its adhesion to the side. The question of fæcal accumulation had occurred to me, and I am not sure but that he may be right. The hard, rock-like consistence was against this view. My own conclusion, that there might have been some fibrous tissue, was apparently strengthened by the effect of treatment.

When I approach a subject of this sort it is with a mind entirely disabused of prepossessions as to the treatment; it is the good of the patient that I desire. From that habit of mind I frequently make the mistake of calling in operators—a course which sometimes I afterward sadly regret. The picture of the results of operation in intestinal obstruction, as given by Dr. Price, is far more sombre than I had supposed. The nature of the case reported would largely have precluded the possibility of operation, as it would have necessitated opening the whole length of the colon and removing the contained matter as one mass, if it was fæcal. The fact that the woman is now having daily evacuations without medicine is certainly a proof of the value of the treatment adopted.

Obstruction due to a kink in the

bowel would certainly be the form best adapted to the electrical treatment, if uncomplicated by inflammatory bands. The current would tend to induce muscular action of the bowel that would reduce these kinks. This was probably the case in the instance reported, for there was great distention of the bowels before relief came.

Dr. Hoffman objects, in the second case, to the use of iodine, after I suspected the presence of pus. The iodine was omitted when it appeared that pus had formed; but I continued the expectant treatment, because I have a little respect for nature. I prefer natural means of drainage, in these cases, to drainage provided by the surgeon. This permits us to wait until the parts have been glued together in the efforts of nature to provide a safe mode of exit for the pus. I should have considered it a murder to have opened the abdomen and torn apart the coils of intestine that had been glued together by nature to prevent the pus getting into the abdomen. If this had been done, we would have had the abdominal cavity drenched with this fetid material.

I am obliged to Dr. Shoemaker for the information in regard to the peroxide of hydrogen, as I was under the impression that it was only the presence of pus that would cause effervescence.

ELLISTON J. MORRIS,

Secretary.

PLATE I.

FIG. 1.



TETANIC SPASM.

FIG. 2.



OPISTHOTONOS.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

ORIGINAL COMMUNICATIONS.

Traumatic Tetanus in a Child; Recovery.

BY JOSEPH P. TUNIS, M.D.,

*Visiting Physician to St. Clement's Dispensary for Children; Formerly
Resident Physician in the Episcopal Hospital, Philadelphia.*

THE following case is reported both for the severity and frequency of the convulsions and on account of the favorable termination which resulted. In regard to the relative frequency of tetanus among children as compared to its occurrence among adults, Dr. F. X. Dercum writes:¹ "It would be safe to infer, therefore, that the average percentage is about 22."

Of ten cases treated at the Episcopal Hospital during 1890 and 1891, all were adults excepting one, making a very low percentage; but at the Pennsylvania Hospital, Dr. Frederick A. Packard² makes the percentage about 28. The mortality of all the cases reported is very high—tetanus

or lockjaw being practically synonymous with death.

In connection with the following case it is interesting to recall the words of Dr. Roswell Park:¹ "Wounds of the extremities, of the hands especially, seem more often to determine trismus than any other." In children, especially in summer, the feet would be, naturally, more exposed to danger from traumatism than the hands, and in adults the reverse is true at all times.

The *prognosis* in the following case was more favorable on account of the length of time during which the spasms had lasted before the child was brought to the hospital—a period of ten days having elapsed. In the

¹ Keating's Cyclopædia of the Diseases of Children, Article, Tetanus, Vol. IV, p. 913.

² Ibid., p. 914.

¹ Mütter Lectures on Surgical Pathology, 1890 and 1891, p. 171.

language of Dr. Nicholas Senn:¹ "The more acute the onset and the more intense the symptoms, the greater the immediate danger to life. If death does not occur within two weeks the prospects of an ultimate recovery are good;" and elsewhere,² "So that time gained after the sixth day, with the symptoms remaining stationary, the prognosis becomes more favorable as time increases."

John A., aged 6 years, was admitted to the Episcopal Hospital on December 29, 1890. He had had the usual diseases of childhood. When six months old his left eye had been blinded by a blow from his brother's whip. This constituted the only mark of previous disease about his person. He was poorly nourished, pale, emaciated and very filthy. About two weeks before admission an abscess developed on the left foot, at the base of the little toe, around the site of a neglected cut which he had received while walking inadvertently over some broken glass. After the reception of this injury the wound was neglected. The boy walked, barefooted, in the filthy streets, and, no doubt, in the neighboring stables also, until his foot became painful, red and swollen. The mother applied a poultice, pricked the small abscess with a pin, and finally called a doctor, who, after lancing the abscess freely, directed the reapplication of the poultice. Eight days later the boy began to have spasms, which grew more and more severe, and the mother, becoming alarmed, brought him to the hospital. After carefully cleaning the body, we could appreciate more fully how emaciated and

wretched he was. His body was arched, his neck thrown back, the jaws firmly closed, and the face distorted by the tonic spasm of all the muscles. Each spasm lasted for at least ten seconds, sometimes longer, there being so many spasms occurring, one after another that it was impossible to tell the exact duration of each. Often one convulsion followed another so rapidly that the child was in a constant condition of spasm. At such times his legs would stiffen so straight as to bring the toes on a line with the crest of the tibia. The back would be highly arched, the arms and fingers would straighten out, the neck would be as stiff as a board, with the head thrown back, and a well-marked risus sardonicus would overspread the face. So frequently was this picture of opisthotonos reproduced during the course of the disease that all the hair was worn off his occiput by the constant friction on the pillow (see Plate I, Fig. 2).

While in one of these spasms it was easy to hold him by one hand, supporting his shoulders at an angle of 45° from the bed, upon which only his toes were resting (see Plate I, Fig. 1). The illustrations herewith given were taken from photographs which Rev. Henry A. F. Hoyt, the hospital chaplain, kindly secured while the boy was in the positions indicated. This process required fully half a minute, even with an instantaneous plate, on account of the poor light of the room. His muscles all this time kept the body perfectly immovable. Fig. 2 is from a second photograph, intended to show the position of opisthotonos which his body always assumed in one of these spasms. The arching of the back is slightly exaggerated by the bandage which it was necessary

¹ Principles of Surgery, Philadelphia Edition, '1890, p. 398.

² Lecture on Tetanus, delivered at the College of Physicians and Surgeons, Chicago. Pamphlet, 1886, p. 20.

to pass around the waist and suspend from a rod directly over the top of the bed, so that we might be able to retain the boy in position while the photograph was being taken. It took a very slight irritating cause to bring about a convulsion; an effort at swallowing, a sudden movement in the room, the slamming of a door, the touch of a hand, even a breath of air would be sufficient. In the notes which the night and the day nurses kept of this case it was not considered necessary to make a record of each spasm, they occurred so frequently. For the first five or six days he averaged a spasm every few minutes, after which they became less and less frequent. Six weeks elapsed before they entirely disappeared.

The treatment adopted was as follows: Immediately on admission a bath as hot as could be borne was administered. Hydrate of chloral, 2 grains, and bromide of potassium, 5 grains, were given every hour until he had taken ten doses, when they were given every three hours. Later, bromide of potassium, 5 grains, combined with 2 grains of Dover's powder, was given every two hours; but this was afterward substituted by the chloral and bromide, which were found to be the most reliable remedies in the treatment of the case. Six drachms of whiskey were administered in twenty-four hours during the first week, after which the amount was steadily decreased and stopped altogether. An occasional dose of eserine, $\frac{1}{4}$ grain, was given without any apparent effect. An ether spray over the spine, ten minutes at an application, three times a day, was tried, but abandoned, as it was troublesome to apply and seemed to produce no change in his condition. Toward

nightfall, when he was still restless and there appeared to be no chance of his sleeping, $\frac{1}{16}$ grain of morphia was administered. This dose frequently had to be repeated once and sometimes twice in the night to produce sleep.

Obstinate constipation proved one of the most troublesome features of his disease, and the most painful to the patient, as each effort at straining excited the spasms and renewed the pain, of which he complained most severely in his neck. At such times it was pitiful to see his pinched features, distorted and drawn by the unnatural contraction of the muscles, and to hear his low moan of intense agony. It would be impossible to recognize the features of a child in the sufferer; he was more like an old man.

To relieve the constipation, small doses of calomel were given at short intervals, followed by Epsom salts. It was necessary, however, to resort to glycerine suppositories, enemata, and finally, on the fourth day, several hardened fecal masses had to be removed piecemeal by the finger, with great distress to the patient. After this, however, his condition steadily improved, and a mild laxative was administered daily. He continued to take nourishment readily, and seemed in a half-starved condition. Fortunately for him his jaws relaxed sufficiently between the spasms to allow him to swallow.

The local treatment adopted consisted in cleansing the wound thoroughly and removing under ether the tissues immediately surrounding the original seat of trouble. The wound thus made discharged pus freely. The dressings were removed every third day, and the wound thoroughly

syringed out with bichloride solution, 1 to 2,000. It was not until well in the fourth week that the wound had healed by granulation. The temperature chart was negative in this case. The highest point reached was 101° and the lowest $96\frac{2}{3}^{\circ}$.

The daily record was as follows: On the second night after admission, December 30, was much quieter than and not so many spasms as the previous night; would fall asleep after having his position changed. December 31, had peptonized milk in small quantities at short intervals; lay on his back nearly all night; had a few slight spasms. January 1, 1891, was restless and wakeful early part of night, but became quieter toward morning; drank seventeen ounces of milk in twelve hours. January 4, had frequent spasms first part of night; would become rigid after taking nourishment or medicine. Seemed quieter and slept better toward morning. January 7, slept better and was quieter than at any time yet, etc., etc. January 10, had frequent spasms all night. January 11, did not sleep soundly. Had frequent spasms. January 12, had several spasms during the night before taking morphine, but after taking the second dose he remained quiet. After January 24, the spasms ceased, and the daily record of the case was discontinued. Improvement was steady and continuous, and the boy was finally discharged from the hospital in good condition, having gained ten pounds since admission. The disease lasted about sixty days. Although every effort was made to discover how this condition was brought about and exactly where the spasms commenced, it was all to no purpose. The mother could give no information in regard to the commencement of the disease.

It was very fortunate for this case that between the spasms his jaws relaxed sufficiently to allow his taking plenty of nourishment.

For permission to report this case I am indebted to Dr. William Barton Hopkins and Dr. Thomas R. Neilson, who had charge of the boy while he was in the hospital.

Among the contributors to the literature of this subject, Dr. W. J. Conklin¹ reports the case of a boy, aged 8 years, who shot himself in the hand with a toy pistol. Although the wound was "thoroughly cleansed," suppuration ensued on the fourth day after the accident, and muscular twitching on the ninth. The injured part was first affected, the hand being extremely flexed and twisted toward the ulnar side; the fingers were flexed upon the palm and the thumb erect. Any effort to straighten the hand or fingers brought on severe pain and spasms of the muscles of the hand and arm. Trismus appeared seven days after the tetanic contraction of the hand and fingers. These spasms gradually became less frequent and finally disappeared.

He made a slow but sure recovery, seventy days elapsing before he was pronounced cured. The treatment adopted was three grains of chloral and twenty grains of bromide every three hours unless sleeping interfered. Constipation was also marked in this case.

Why it is that certain cases get well, apparently showing no difference in their manner of onset and in their symptoms from the great majority who perish, it would be interesting to determine.

¹ Ohio Medical Journal, October, 1881.

CLINICAL LECTURE.¹

BY J. MADISON TAYLOR, M.D.

[Reported by J. G. CLARK, M.D., Resident Physician, Children's Hospital.]

THE cases which I present for your inspection to-day are but the common run of those seen at a large out-patient service, but are nevertheless instructive in that these are everyday problems. The first case is one of those instances not seldom seen, when the diagnosis can only be made after careful search into the history of this and collateral cases—an evidence of the greater value of “hind sight over foresight.” The mother applied to the out-patient department for aid for this child, who was suffering from weakness and pallor. The weakness was so extreme that I suspected paresis, either diphtheritic or as a result of some central lesion. I was told that a second child had had diphtheria about two weeks after this one had shown signs of indisposition. From this it was natural to assume that this child had suffered from a slight attack of the same malady, which had been overlooked. There seemed to be a localized weakness in the legs and some little in the naso-pharynx; the heart action was also feeble. Moderate evidence was adduced as to difficulty in swallowing at that time. On the second visit, however, we were able to make an analysis of the urine and found some albumin. On closer questioning, then, it seems that the child, when convalescing, exhibited a slight desquamation, especially of the extremities. Then it became clear

that both these children had suffered an attack of *scarlatina*.

It is less common for albumin to persist in the urine of convalescents from diphtheria than from scarlatina. Indeed, the sequelæ of the first are less serious organically than of the second, though the palsies from diphtheria are often so distressing and disabling. It is also said to be possible for these to coexist at the same time. I think it most uncommon, if ever seen. An anginose scarlatina presents all the obvious characteristics of a pharyngeal diphtheria. I have never seen the typical pareses of diphtheria following scarlatina. It occurs to me to say one word here about the contagiousness of scarlatina compared with the other exanthemata. It is a very common occurrence for us to have cases of this disease presented to us, at the dispensary, living in homes so poor that isolation can only be very imperfectly attained, and yet, with moderate precautions, these seldom cause others. It more often shows itself sporadically in an area of three or four blocks, and rarely in contiguous houses. Babies at the breast are seldom attacked; we see this immunity shown many times every winter term here. Those from three to five years are most often affected.

The second case is one which you have seen before. When this little boy first came to the hospital he was pale, and complained of feeling very

¹ Delivered at the Children's Hospital, February, 1892.

miserably. His breath was offensive, and there was a condition of general debility present. The tonsils are hypertrophied and partially prevent the ingress of air. As you know, the tonsils are richly supplied with lymphatic vessels, and in cases of pharyngitis, acute tonsillitis, digestive disorders, etc., they become clogged up, and consequently we find a low grade of inflammation setting in, which at times causes great hypertrophy of these glands. In cases in which the tonsils become so much enlarged as to occlude the respiratory passage, the chest becomes narrow, and there is induced a strong phthisical tendency. These patients are always anæmic and debilitated, due to deficient oxygenation of the blood. I have shown in previous clinics a series of cases of anæmia consequent upon hypertrophy of the tonsils.

This case is steadily improving under the use of astringent gargles and the internal administration of iron and codliver oil.

The little girl whom I next bring before you is plump, rosy-cheeked and apparently well nourished. From her general actions and facial expression I would say there is an hysterical element in her character. At present she has jerky little movements which her mother says have never been present before. The history of the case is as follows: The mother first noticed that the patient dropped dishes at the table, and later could not lift her left arm from her side, which looks much like hysteria; next her feet were involved, and she kept them constantly moving. Although having the appearance of a very healthy child, her mother says she has never been quite right since

babyhood; her sleep has been disturbed by bad dreams, and she has been subject to many minor ailments, but has never had any serious illness. The family history is negative, there being no history of nervous troubles of any kind in her ancestors. Of course this part of her history must be taken with considerable allowance, as people of this grade of society do not exhibit very accurate ideas of their genealogy.

The general subject of chorea is always interesting to me. This disease, as you probably know, is a disturbance of the ganglionic nerve-cells of the cerebro-spinal axis, simulating lesions of this area, but not always demonstrable on post-mortem examination. At times embolic infarcts, congestion, etc., are found, but are not constant in all cases. The contributory causes of chorea are sudden fright or joy, emotional shock of any kind, rheumatism, organic heart lesions, convalescence from many diseases and also diathetic diseases in general. There is always a lowered tone of the general system, although you would not say such was the condition in this case, as the patient has the appearance of being quite healthy. There are two types of chorea—first, true St Vitus' dance, as modern writers have agreed to call it, in which the rhythmic movements simulate purposeful acts; second, the reflex choreas which are due to extrinsic causes. Dr. S. Weir Mitchell has called this class "habit chorea, or hysteromimetic disease," because some special act is frequently mimicked, as winking, moving the lips in some peculiar way, making queer sounds with the voice, etc. A child so affected may take up one of these special acts which will be continued

for some time, when it will be dropped and another peculiar habit commenced, until the whole body may have taken part at some time in one of these unique acts. The case before you has this form of chorea. I suspected an hysterical element in this when I first saw her. When she came to the dispensary some days since, her mother said she was unable to move her left arm. I saw that the arm hung limp at her side, and when I asked her to make certain movements with it she failed to do as directed; yet, when I requested her to remove her coat and turned my attention to another patient, as she thought, I found she had little difficulty in doing as I asked. Later, when I held out a five-cent piece to her and told her that she could have it if she took it with her left hand, she promptly secured the coin by accurately moving the affected arm. From this I judged that her choreic movements were also due to the same hysterical element in her character which caused her to simulate paralysis of the arm. Such cases are not serious, and require moral rather than medicinal treatment for their cure. Habit choreas are exceedingly contagious. You have all heard of the "dancing sickness" which swept over Europe after the return of the Crusaders from their pilgrimage to the Holy City. I have seen instances of this so-called dancing habit in the kahns or public houses of the Orient. These houses are built in the form of a rectangle, with an open court in the centre. The dancing dervishes took their places in a circle in this court, and each began some peculiar movement, one rapidly revolving his body; another moving his arm in a peculiar manner, and so on

until each dervish in the circle had taken up some strange vibratory act, which was continued so long that it would seem beyond human endurance.

Constant repetition of a certain act increases the capacity for its performance, until it may be continued almost indefinitely without injury to the actor. The Crusaders, during their journey to Jerusalem, had seen the dancing dervishes, and probably acquired the habit, which later overran all of Europe.

I recall a peculiar instance of this strange functional nervous disturbance which occurred soon after I graduated. I was visiting physician at that time, 1879, to the Church Home for Children, of Philadelphia. Four children were admitted to the medical wards with chorea. Soon other children in the institution, seeing the peculiar movements of these little girls, took up similar acts, and soon there followed an epidemic of habit chorea throughout the entire institution. So interesting was this epidemic that it was commented upon by several medical journals, and many physicians came to the Home to study this form of chorea. So long as the children remained together there was no abatement of the trouble, and finally we were compelled to remove the patients to different parts of Philadelphia. When they were again returned to the institution there was still some tendency to a return to the same habit, and it was only broken up by punishing the children when they showed any inclination in that direction. This class of chorea can usually be recognized by the constant repetition of one act. Habit chorea often arises with-

out apparent cause. The treatment of these cases is to build up the system, if there is debility, by means of arsenic and other tonics. In addition, the patient should receive a salt sponge-bath each morning, and cold effusions should be applied to the spine. Sharp and emphatic suggestions are also of great service in these cases. You say to the children, "Sit down in that chair, and do not move for three minutes," and often you will be surprised how readily they follow your suggestion.

Now, I will ask this little girl to go through certain movements. I command her to stand, and she quickly complies, and thus she follows my suggestion as I ask her to go through certain movements after me.

True chorea is divided into two classes: first, that type in which the irregular movements are increased by attempts at voluntary acts; and second, that type in which the movements are lessened by attempts at volitional acts.

I do not think there is any pathological significance in this division. The fact that choreic movements are often confined to one side, or one member of the body, has caused some writers to think that this disease is of cerebral origin. There is a post-hemiplegic chorea, which is certainly due to lesions in the brain, in the main due to apoplexy. In ordinary cases, however, in which there is no history of cerebral disturbance, I consider this localization of rhythmic movements of no clinical significance.

Let me caution you not to fail to carefully examine the heart of every child coming to you with chorea. There are, in a great number of these cases, positive heart murmurs demon-

strable, which are not organic, due to irregular contraction of the papillary muscles. Again, there may be a true organic murmur present which has existed before the attack of chorea. Choreic murmurs usually clear up on recovery, but it is not safe to prognosticate regarding this point. If there be some fever, pain on pressure over the præcordia, and rapid pulse, you are safe in assuming that there is some form of endocarditis present. Many really serious organic murmurs are passed over as trivial affairs, because of the assumption that they are merely functional and will disappear after recovery from chorea. If there is ground for believing that there is endocarditis present it should be energetically treated and absolute rest insisted on. The treatment of all forms of chorea is best aided by rest in bed for a time.

The next two patients are brothers, aged respectively eleven and fifteen years. The younger boy is now well, and the older one is so much improved that I will not be able to show you the large, irregular choreic movements to which he was subject. The younger child was affected first, and shows beautifully the results of carefully regulated treatment. When I first saw these two children they both had the classical symptoms of true chorea or St. Vitus' dance. Their movements were excessively irregular, large and clumsy, and traversed almost the entire body. In closing, I will give you a few points on treatment. Arsenic, which is the standard remedy in these cases, must be given in ascending doses. At the Orthopædic Hospital of this city, the following plan is adopted in the dispensary, so that mothers can give

Fowler's solution regularly and safely. A card marked in this manner is given to them :

MARCH.	A.M.	M.	P.M.
7	3 gtt.	3 gtt.	3 gtt.
8	3 "	3 "	4 "
9	3 "	4 "	4 "
10	4 "	4 "	4 "
11	4 "	4 "	5 "
12	4 "	5 "	5 "
13	5 "	5 "	5 "

Patients or their attendants are instructed to give the number of drops indicated on the card for each day, commencing with a certain dose, and gradually increasing the arsenic, one drop at a dose, as indicated on the card, until there is an abatement in the symptoms, or some one of the evidences of the physiological limit of this drug appears, when it must be suspended.

SOCIETY PROCEEDINGS.

New York Academy of Medicine—Section in Pædiatrics.

DR. WM. P. NORTHRUP, CHAIRMAN.

Meeting of March 10, 1892.

DR. A. JACOBI presented a case of cyanosis. The child was 15 months old, and had been cyanotic from birth. A loud systolic murmur was heard all over the front of the chest and in the abdominal aorta, but not markedly behind. The heart was much enlarged to the right. This meant hypertrophied right ventricle, and this, in turn, obstruction in the pulmonary circulation. The probable diagnosis was partial stenosis of the pulmonary artery, with open ductus arteriosus and closed septum. With complete contraction of the artery and open septum the heart would not be as large.

DR. H. W. BERG reported two cases of imperforate anus, the rectal opening being in the vagina.

Operation was performed by making a long incision across the peri-

næum, dissecting out the rectum, bringing it down to the natural position and stitching it in place. Both operations were successful, the patients having normal rectums with sphincters, which they would not have had if an opening had been simply made through the tissues.

DR. J. LEWIS SMITH presented a boy of 12 years who for nine months had had an attack of embolismal apoplexy, a rare condition at that age. There were no cardiac symptoms or signs present.

The chief subject of the evening was empyema in childhood.

DR. HENRY KOPLIK read a paper upon the relations of empyema to pneumonia and to pleurisy with serous effusion. The ætiology of pleurisies, both serous and sero-purulent, has been cleared up in many

respects during the last decade, chiefly through bacterioscopic science. We know that children may develop an effusion in the chest, not as the result of constitutional causes alone, but of causes to which we also trace the development of pneumonia. We know that a child may recover as completely from an empyema, if not tubercular, as from a pneumonia.

The diagnosis of pleurisy as serous or purulent, from simple inspection of the fluid without the microscope, is highly unsatisfactory, and may lead to grave error in diagnosis and treatment. Children are prone to develop sudden effusions in the pleural cavity, and we are struck with the overwhelming frequency with which such effusion is purulent. It often happens that a clear serous-looking effusion changes to a purulent one. This, however, is apparent rather than real. It was formerly thought that if fluid, at the first exploratory puncture, was clear and subsequently became purulent, some secondary infection had taken place. This we now know to be erroneous. All exudations, apparently serous at first, which subsequently become purulent, do so from causes independent of external interference, but inherent in themselves. Such a serous exudation, if examined microscopically, will be found to contain not only leucocytes and blood cells, but pus-producing micro-organisms. In children, acute exudations without these micro-organisms are the exception. Such fluid is but one step removed from actual pus. Moreover, the custom of refraining from informing ourselves as to the nature of fluid in the chest by puncture, for fear of contaminating that fluid, is untenable.

Another point of importance is the question as to whether in children empyema may be primary, whether it may occur without any connection with external infection or processes in the lung. While cases have been reported in which no other diseased condition was detected upon autopsy, they are of extreme rarity; so much so that the writer, in a large experience, has never seen one.

Can the effusion be purulent from the outset? Undoubtedly it may be and frequently is so. The connection between pleurisy and disease of the lung is thus seen to be very close. It often happens that the illness begins with high temperature and all the symptoms of pneumonia; but after a few days the condition changes, fluid is detected in the pleura, giving the impression that an error in diagnosis has been made. In such cases microscopical examination shows the same germ in the pus from the pleural cavity as is found in the lung—the pneumococcus of Fränkel. The tendency of this germ to cause suppuration is well known, and it is found in other complications of pneumonia marked by pus, as meningitis. Its presence in empyema renders the close relationship of that disease to pneumonia very certain. They probably invade the pleura through the sub-pleural lymph spaces.

There are other exudations which still cause discussion in which we do not find the pneumococcus, but other germs of less marked selective tendencies, as the streptococcus and staphylococcus. There is reason to believe that these are also metapneumonic, though the specific germ does not appear.

There are other cases complicating

the secondary pneumonias and occurring without pneumonia in the infectious diseases. These effusions usually show the presence of the streptococcus.

Dr. J. W. BRANNAN read a paper on the "Diagnosis of Empyema." As symptoms are obscure the diagnosis must rest chiefly on physical signs. It is easy when the classical signs are present—immobility of the affected side, loss of vocal fremitus, flatness on percussion and diminished respiratory sounds. In young children, however, these signs are rarely distinct. There may be no distention of the side whatever, and vocal fremitus, even if it can be obtained, is of no significance. Signs obtained by auscultation are often difficult to interpret. The normal respiratory sounds are so loud and the pleural cavity so small that a considerable collection of fluid may cause but little change. Displacement of the apex beat is a sign of the greatest value. It is caused by no other condition. The two most constant signs are percussion dulness and displaced apex beat. Exploratory puncture affords the most positive, and in many cases the only certain evidence of fluid. As to the character of the fluid, symptoms and signs are very uncertain guides. The needle is the only sure test. Pleurisy following pneumonia or complicating the infectious diseases, and traumatic pleurisy, are apt to be purulent. Though the needle often fails to obtain fluid when present, its use when the fluid does not quickly disappear should never be omitted.

It has been alleged by Baccelli that whispered voice is always present when the effusion is purely serous,

but absent when sero-purulent or purulent. This is explained on the ground that sound is more readily transmitted by a homogeneous medium like serum. The certainty of this sign is quite doubtful.

Dr. J. H. RIPLEY read a brief paper upon operative treatment. Operation should be performed as soon as a diagnosis has been made. Unless the amount of fluid is very great or the symptoms are urgent, a delay of a few days will do no harm. The location of incision must depend largely on the local conditions. It may usually be made in the seventh intercostal space below the angle of the scapula. An incision an inch or more in length should be made down to the costal pleura, through which a small opening should be made. Through this a director should be passed, and the incision enlarged with a blunt-pointed bistoury. A drainage tube of large size should then be passed several inches into the cavity, with a safety-pin attached to the outer end to prevent its slipping out of sight. If there is not sufficient space for the tube between the ribs, a portion of rib should be removed subperiosteally. The wound should be dressed with oakum, which should be changed every day.

Dr. J. WEST ROOSEVELT read a short paper regarding expansion of the lung in cases treated by incisional drainage. The idea that fluid in the chest causes compression of lung has been completely disproved. The lung tends to retract from the chest wall whenever fluid or air is present in the pleural cavity. It becomes retracted and condensed, but is compressed only when the amount of fluid is very large. Compression can only occur when the elastic recoil of the lung has

been destroyed. Expansion of the lung to fill the normal position almost invariably follows early operation performed at the lowest part of the cavity, where drainage can be free. The earlier the operation, when pus is known to be present, the better. The prognosis is far better with a chest full of air than with a chest full of pus.

Expansion is aided by the action of the other lung, especially when the glottis is closed, as in coughing. The air is forced by the sound lung into the contracted lung during expiration, and expansion will be seen at that time rather than during inspiration. Granulation tissue, by contracting, also aids in drawing the lung out to the chest-wall.

Removal of sufficient rib to permit drainage is perfectly proper. Removal of rib for the purpose of causing contraction of the chest-wall is almost criminal. It should not contract, and can only do so by interfering with the lung and obliterating space that the lung requires, and, if properly managed, will undoubtedly occupy.

Dr. SCHARLAN reported a case in which the chest was found full of pus on the third day after a sudden onset.

Dr. CAILLÉ had seen a case of double primary empyema, as proved by autopsy. The lung was perfectly healthy, and there was no lesion of the tonsils or other organ. Primary empyema is, however, extremely rare in children.

Dr. KOPLIK said that while primary empyema was a possibility, it was extremely rare.

Dr. HOLT had never seen a case of primary empyema, or one in which pure serum without pus-cells had been transformed into pus. Pleurisy

accompanying pneumonia is usually distinctly purulent.

Dr. PUTNAM-JACOBI had seen a case of primary empyema. The theory of lung compression was antiquated and untenable.

Dr. EWART, of London, believed that while primary pleurisy might occur, it was very rare.

Dr. RIPLEY said that in a child dullness was not always present, and but little fluid was required to produce bronchial breathing. Displacement of the apex was a valuable sign, but it was very difficult in some cases to detect the apex beat.

Dr. ANDREW H. SMITH had often found a line of egophany just above the fluid, and regarded it as a valuable sign. He said that the lung, in empyema, was contracted, not compressed. He had, many years ago, proved the transference of impulse from the sound to the affected lung when the glottis was closed.

Dr. HOLT referred to the absence of râles and friction sounds, where they had previously been heard, as a very valuable sign of fluid.

Dr. EWART also referred to silence where there had before been crepitations as an important sign. He did not believe that Baccelli's sign was to be relied upon. Symptoms were sometimes of considerable importance. A high or oscillating temperature, associated with a persistent dry cough for a length of time, was a suspicious symptom.

The Chairman asked whether it had been the experience of those present that aspiration was advantageous.

Dr. ROOSEVELT replied that aspiration, with the idea of expanding the lung by the suction, was foolish. At the best it is a waste of time.

Dr. DAWBARN reported a case in

which irrigation of the cavity with a warm one per cent. solution of carbolic acid had been followed by death from shock in four hours.

Dr. CAILLÉ objected to irrigation on the ground that it breaks up the adhesions, which we wish to avoid.

Dr. BERG advocated exsection of a rib to aid drainage.

Dr. WINTERS believed that most undiagnosed cases died from exhaustion or tuberculosis, but encysted

cases often recovered. He had never seen a case of pure serum change to pus. Serous effusions were not uncommon in connection with the infectious diseases. He had frequently seen cases of empyema in which a diagnosis of pneumonia had been made at the outset. He had formerly thought that an error in diagnosis had been made, but now believed that that was the usual way in which empyema developed.

ABSTRACTS FROM CURRENT LITERATURE.

Palatable Castor Oil.

Medical News, March 12, 1892.

STAADKE (*Deutsche medicin. Wochenschrift*, 1892, No. 4) removes the nauseous taste of castor oil by washing it repeatedly with hot water, and then adding saccharine enough to give it a sweetish taste. A minute

amount of cinnamic aldehyde and of essence of vanilla is next added. The oil thus prepared has an agreeable taste, and is as efficacious and stable as the ordinary but disagreeable variety.

Histological Lesions Produced by the Tox-albumin of Diphtheria.

Bulletin of the Johns Hopkins Hospital, March, 1892.

WILLIAM H. WELCH and Simon Flexner have injected the sterilized toxic products of the diphtheria bacillus into guinea-pigs, with the production of the identical symptoms and lesions observed when inoculations of the living organisms were used. The lesions consisted in glandular changes, most marked in the axillary and inguinal regions and fragmentation affecting the lymph nodes and nuclei of

the spleen cells. The authors consider that it is now established that the toxic products, and not the bacilli themselves, invade the tissues in diphtheria; as it was demonstrated that the lesions in the tissues produced by the bacilli and toxic principle on the one hand, and the toxic principle alone on the other, are in perfect correspondence with each other.

Iodoform as a Prophylactic of Ophthalmia Neonatorum.

Annales d'Oculistique—Merck's Bulletin, December, 1891.

DR. VALUDE has published the results he obtained in the clinics of Dr. Bar and Professor Tarnier, in Paris, from the systematic employment of finely powdered iodoform as an application to the eyes of newborn babes. These results compare favorably with those obtained under similar conditions in the same wards by Dr. Crédé from silver nitrate. The author recommends the eyelids to be carefully cleansed, and powdered iodoform dusted into the conjunctival sac as soon as the child is born—before the cord has been severed. As an advan-

tage of this treatment it is claimed that the powder, or some of it, at least, *remains* in the folds of the conjunctiva *for a considerable time* after the application; whereas solutions of any kind immediately drain away.

Dr. Valude believes that iodoform will prove more useful than silver nitrate in the hands of *midwives*, because it can be more easily applied, and does not decompose—as the solutions of the silver-salt do, even when such precautions as preserving in dark bottles, etc., are taken.

An Interesting Case of Too Early Development of the Sexual Organs in a Child.

Wiener Klin. Wochenschrift, July 24, 1890.

At a late meeting of the Paris Academy of Medicine, M. Crivelli showed the photograph of an eighteen-months'-old girl whose genital organ presented a degree of development such as is usually found at the age of eighteen. The mammae and the nipples were also well developed; the mons veneris covered with lanugo,

the clitoris being also very large. By investigation, Crivelli found out that the child was addicted to masturbation. The menses had appeared regularly since three months, and lasted from three to four days. Before the appearance of the menses the child feels sick for about twenty-four hours.

Ehrlich's Reaction in Tubercular Children Treated with Koch's Lymph.

Jahrbuch für Kinderheilkunde, Vol. XXXIII, No. 3.

It is known that Ehrlich's reaction may also occur in the urine of those suffering from tuberculosis. As tuberculin causes an exacerbation of the tubercular process, experiments were undertaken by Amiel Feer to determine whether or not the sulph-

anilic test would respond more frequently in those who had been previously treated with Koch's lymph. Seventeen children suffering from tuberculosis of the bones, joints and lymph glands gave the reaction in only two cases; while fourteen marked

reactions were obtained after the lymph had been used. The earliest time in which the reaction occurred was in five hours, reaching its height in twenty-four hours, and extending at times to the third and fourth days. It seemed to bear a direct relation to

the height of the temperature. That the reaction may not positively occur is shown by the fact that it failed in cases which were undoubtedly tubercular. The author considers that this reaction occurs more readily in children than in grown persons.

The Treatment of Scarletina.

Medical World.

SINCE the publication of the treatment of the disease with chloral, by Dr. J. C. Wilson, in 1889, others have had some favorable experience with this drug. The theory of its action is a sedative to the nerve centres, and antiseptic to the blood and the tissues with which it comes in contact in administration and elimination. It is given in doses just sufficient to keep the patient in a state of light somnolence. This will require about one-half to two grains for infants and children, and four to six grains for adults, repeated every three to four hours, according to effect. It is especially successful in preventing complications and sequelæ.

Curgenven presented before the Epidemiological Society of England his method of treatment. The remedy used is oil of eucalyptus. He gives it internally in frequent doses (two to four hours) of a few drops in emulsion or shaken up in water. He saturates the clothing and all bed-clothing, and sprinkles the floor, furniture and walls with it, until the entire air of the room is redolent with the odor. He sponges the body with it twice daily. It renders all other medication and disinfection, as well as isolation of the patient, unnecessary.

His invariable results, after one year's experience, are the immediate arrest of the eruption, which does not extend further, the speedy relief of

angina and subsidence of enlarged glands, the decline of temperature to nearly normal, and absence of albuminuria, due to the elimination of the oil by the kidneys. Thus the activity of the poison is very effectively checked within a few hours.

But he further states that if administered before eruption and active symptoms have set in, it will abort the disease, and that it will act as a complete prophylactic to those exposed to it.

Salicylic acid is rapidly acquiring a reputation in treatment, as well as prophylaxis, of this disease. In from two to five grains daily it is said to be effective in protecting the system against an attack.

Dr. Illingworth, in the *Edinburgh Medical Journal*, relates his experience in this disease with the biniodide of mercury, on the principle that it acts as a germicide. The dose used (for a child 7 years of age) is one-sixteenth of a grain thrice daily, rubbed up with sugar. However, he prefers giving every three or four hours a half drachm of the bichloride of mercury solution (Brit. Pharm.), giving, also, one and one-half to two grain doses of iodide of potassium at the same intervals. He claims the usual benefits, that it "modifies the course of the fever, reduces the temperature, checks or altogether prevents the inflammation of the skin, and prevents the dreaded sequelæ."

PÆDIATRIC THERAPEUTICS.

WHOOPIING-COUGH.

The safest rules for the management of an ordinary case of pertussis are as follows: First period—Keep the child in the house, or, preferably, in bed, and give aconite and belladonna, adding opium if necessary. These remedies may be administered in combination, from ten to twenty minims (according to the age of the child) of a mixture containing equal parts of tincture of aconite, tincture of belladonna and paregoric, being given in the course of the twenty-four hours. Second period—Give drugs, such as ipecacuanha. Treat also the dyspepsia, which is usually present. Third period—Treat the tracheo-bronchial adenopathy by codliver oil, iodine, tonics, etc.—*Medical Record*.

Currier recommends the following powder by insufflation four or five times a day in mild cases, and oftener in severe ones. It is better to use it in advance of a paroxysm than subsequently. If its use is delayed too long until the effect of the anodyne has passed off, it will seemingly produce or hasten the paroxysm:

R. Hydrar. chlorid. corros.,	gr. j.
Pilocarpinæ,	gr. x.
Cocainæ hydrochlorat.,	gr. xv.
Ammonii chlorid.,	℥iijss. M.

These should be reduced to an extremely fine powder.—*Medical and Surgical Reporter*, December 12, 1891.

The following have been used with asserted success:

R. Vini antimonii,	
Syr. scillæ,	ana ℥iij.
Aluminii,	℥ij. M.

Sig.—Teaspoonful every two or three hours.

R. Antipyrine,	℥iss.
Potass. bromidi,	℥iiss.
Elix. simp.,	℥iv. M.

Sig.—Teaspoonful every three hours.—*The Prescription*, January, 1892.

SEAT WORMS.

R. Tincturæ rhei,	gtt. xxx.
Magnesia carbonat.,	gr. iij.
Tincturæ zingiberis,	gtt. j.
Aqua, q. s. ad	℥iv. M.

Sig.—Warm, and use as injection three times daily.

BRONCHO-PNEUMONIA IN CHILDREN.

Simon recommends the following prescription in the early stages of this condition:

R. Acetate of ammonium,	gr. vii.
Tincture of aconite,	gtt. xv.
Codeine,	gr. ii.
Simple syrup,	℥ss.
Water, q. s. ad	℥iii.

A teaspoonful of this may be given every hour until five or six doses are taken. At the beginning of an attack, a mustard plaster or other form of counter-irritation should be applied over the thorax, and after it has acted for one or two hours should be followed by an emollient poultice. It is also well to allow steam from boiling water to pass into the air of the sick-room.—*L'Union Medicale*.

HERPES GENITALIS.

After washing the parts with a weak solution of carbolized water, Besnier recommends the following to be applied:

R. Pulv. acid. tannic,	℥i. ʒi.
Bismuth subnit.,	gr. xv.
Pulv. amyl,	℥ij.

L'Union Medicale.

CHRONIC ECZEMA.

Stelwagon prescribes the following:

R. Ung. picis liquid.,	℥j.
Ung. zinci oxid,	℥vj.

M. Sig.—Apply locally.

The child should also be given codliver oil and a plain, nourishing diet.—*Coll. and Clin. Record*.

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ORIGINAL COMMUNICATIONS.

The Treatment of Appendicitis.

BY A. WORCESTER, A.M., M.D.,
WALTHAM, MASS.

THE appendix vermiformis is, so far as is known, a useless organ. This is very likely the reason of its proneness to decay. Any inflammation of it is likely to become gangrenous in character, and to result in the partial or complete obliteration of the organ. This is Nature's method of treatment. But grave dangers attend this natural process. Either by direct extension of the inflammation, or by infection from the perforated bowel, there is likely to result a circumscribed peritonitis, a localized abscess, or a diffuse purulent peritonitis.

At the beginning of an attack of appendicitis it is easy to make the diagnosis, but not possible to foretell whether the inflammation will quietly subside or will result in one of these complications. And if the attack does quietly subside, the patient is afterwards very liable to successive attacks, each more likely to result disastrously.

There is only one logical treatment of the disease, namely, *the excision of the diseased organ as soon as the diagnosis is made*. No other intelligible rule can be formulated. If followed, the disease now so dreaded will be robbed of its present fearful fatality.

To demonstrate this proposition it is only necessary to establish the verity of the statements I have already made and to show the absolute safety of the operation advocated, and this I propose to do.

No one, I suppose, will contend that the appendix is of any use, or that its removal is the slightest disadvantage. Nor will any one now dispute the statement that the appendix is prone to inflammation, which is liable to become gangrenous, and thus cause serious complications.

There may be some who feel themselves able to decide at the beginning of a given attack of appendicitis

whether it will prove to be of the mild and comparatively harmless or of the dangerous kind.

Many writers on the subject have attempted to lay down rules for making this distinction. But there is no uniformity among such writers, nor is there any consistency; their opinions are undergoing evolution. Most surgeons and nearly all physicians still cling to the frightfully unjustifiable policy of waiting for time to determine this question. With never a twinge of self-reproach they keep reporting cases of appendicitis where the patient's life was endangered or even sacrificed by their Fabian policy; and, because they can also report cases where the attack proved to be of the mild, harmless sort, they declaim against the men who operate in every case.

It is, however, very plain that these advocates of the waiting and watching policy are learning to watch more closely and to wait less and less.

In their laudable efforts to discover the signs of the proper time for surgical interference they are hurrying towards the only logical position. Even now the most experienced look forward longingly to the comfort of finally being able to stand on both feet in the presence of this heretofore dreaded disease. Some surgeons, who, even a year or two ago, were describing the advantages of operating on the fourth day or on the third day, are now admitting that the time for operating is not to be estimated in days, but is to be determined by the undoubted presence of pus in the neighborhood of the appendix. When such surgeons have taken the next step forward, and will allow that the time for operating is when there is an

undoubted circumscribed peritonitis, they will find themselves at last on sure footing. For without the presence of a circumscribed peritonitis it is probably not possible to diagnose appendicitis. If it is possible, then still will the rule hold to excise the appendix as soon as ever the diagnosis of its inflammation is made. In such case the operation will be even easier; not more safe, for the operation, if performed even as soon as the diagnosis is established by the onset of a circumscribed peritonitis, is an absolutely safe operation. To this, however, I shall recur.

Let us first consider the reasons for objecting to my rule.

(1) There is still in the minds of many a confusion of the disease appendicitis and of its sequelæ. The pathologists have taught us that perityphlitic abscesses are usually caused by appendicitis. This should influence the treatment of appendicitis only by making us more zealous to prevent a perityphlitic abscess, by removing its cause. Few practitioners have yet recognized this logical necessity. And it is still commonly held that the treatment of these entirely different conditions should be the same. Why? Because, forsooth, the abscess is the result of the appendicitis. More sensible would it be to declaim against the excision of a diseased Fallopian tube because its probable sequel, a pelvic abscess, can occasionally be best drained *per vaginam*; for in this case even the sloughing of the tube does not directly threaten a vital organ, whereas the sloughing of the appendix threatens the integrity of the intestine.

But even admitting, for the sole sake of routing the Fabians, that the treat-

ment of the two conditions should be the same, even so they have no sufficient reason for delaying the use of the knife. It is true that in cases of distinctly localized perityphlitic abscess there is much less danger of diffuse peritonitis ensuing than there is in cases of appendicitis proper. There is, therefore, less danger in delaying surgical interference. But it is a mistake to suppose, as many surgeons persist in supposing, that there is any safety in thus delaying. The abscess may become attached to the abdominal wall, and its foul contents may, indeed, burrow through it; but the chances are greater that, if not originally so attached, it will never be so. And while the surgeon is waiting in the hope of a shorter cut, the pus is very likely to make one of its own, not at all to the surgeon's liking.

Moreover, even if unattached to the abdominal wall, a perityphlitic abscess presents no great difficulty to a moderately skilful operator. After incising the abdominal wall and packing protective sponges or gauze around the abscess, it can be evacuated without infecting the general abdominal cavity. And then, if the operator is content to let the sloughing tissues come away of their own accord, simply packing the cavity with gauze and *not* undoing his good work by sewing up the abdominal wound, then the patient will do surprisingly well.

Here, for example, is a case of this kind—one of three in which I have operated during the past month, all of which have done equally well.

PERITYPHLITIC ABSCESS, UNATTACHED TO THE ABDOMINAL WALL.—OPERATION.—RECOVERY.

Miss M., a saleswoman, 21 years

old, of slender build, but strong and healthy, thought she "took cold" the morning of April 7, 1892. She had been wrestling with her sister, and sat for some time afterward outdoors, till quite chilled. She ate no dinner that day, and complained of fatigue and of pain in her *left* side. She gave out at her work the next day, but the day after she resumed her place at the counter, though still suffering pain, especially after any body-motion. During the following few days she grew more tired, but kept at work. She took salts, as was her habit, and secured a thorough evacuation of the bowels. I first saw her at 9 P.M., April 13, the sixth day after the first attack of pain. She complained of pain in the left side above the waist, but on close questioning she referred the pain also to the right hypochondriac region. There was slight tenderness in the right iliac fossa, where a small lump could be felt. Her temperature was 101°, her pulse 100. Poultices were ordered. The next morning at 9 o'clock her temperature was 99°, pulse 84. The tumor had increased slightly in size toward the median line. It was not very tender, but was dull to percussion and well defined.

Operation.—An incision two inches long was made through the thin abdominal wall, directly over the tumor. The peritonæum was found to be normal. A mass the size of a hen's egg presented, at the lower end of which the root of the appendix could be felt. Sponges were packed toward the median line. In searching with the finger for the most vulnerable point in the mass, the abscess cavity was opened, allowing the escape of foul pus. After washing out the cavity it was packed with iodoform gauze. Recov-

ery was rapid and uneventful. The next day and thereafter her temperature was normal. In two weeks she was sitting up nearly all day, although the abdominal wound had not entirely healed, its edges being drawn together with lacings, passed between belaying pins, which were fastened to the abdominal walls by adhesive plaster.

Now there is nothing remarkable about this case, nor will there usually be in similar cases if treated surgically. There was no pressing need for the operation, and perhaps she would have recovered without it. But I was too timid to take the responsibility of the risk that there always is in delaying to evacuate an internal abscess; and a cake in the right iliac fossa, tender to pressure, in a patient even slightly feverish, means an abscess. As for the risk attending the operation, that counts for nothing, for it is less than the risk there is in waiting Micawber-like. I maintain, therefore, that the proper treatment of a perityphlitic abscess is its immediate evacuation by means of the knife. But whatever opinion is held about the treatment of this complication or result, such opinion has no proper place in discussing the treatment of appendicitis itself.

2. Another objection to my rule of operating, as soon as ever the diagnosis of appendicitis is made, is founded upon the inexperience of the most eminent surgeons with the very beginning of the disease. Never having had the opportunity to operate at the proper time, they naturally hesitate to adopt the experience, however favorable it may have been, of those who have had such opportunities.

3. Then there is the objection, founded upon the common experience, of having patients die who were moribund at the time of the operation. Such cases still enter the statistics, accredited not where they belong—to the almost criminal folly of the Fabians, but to the luckless surgeon who was, perhaps, summoned only when the patient's pulse could not be counted at the wrist.

4. Finally, the objection is made to my rule that to be bound by it one must disregard the many mild cases of appendicitis that do very well if left alone, or if treated medically. This is the only objection worthy of serious consideration. It involves the fundamental question of the diagnosis of the disease. I do not maintain the duty of operating in cases of *suspected* appendicitis. I am constantly seeing such cases, and I suppose every general practitioner nowadays is suspecting appendicitis many more times than he actually finds it. Indeed, this must be so, if he employs the eliminative method of diagnosis. In many of these cases where an appendicitis is a possibility, it may be impossible to exclude it. It may be true that I ought, in my list of cases of appendicitis, to include many of these bellyaches, where I could not be sure that there was not some catarrhal inflammation of the appendicular mucous lining, or some rheumatism of the muscular walls. However misleadingly I may have omitted such cases, my ignorance must excuse the omission. I can only assert that never, since my own recovery from the disease, after a late operation four years ago, have I failed where the responsibility rested upon me, to follow the rule herein maintained of

operating as soon as ever the diagnosis is made.

In order to establish the rightfulness of the rule it is necessary, as was stated above, to show the absolute safety of the operation. This can be done only by the slow accumulation of the reported experience of those who follow the rule. Cases where the operation is for any reason delayed after the diagnosis is made, must not, in this connection, be considered; and, therefore, there are as yet only a comparatively few cases for our consideration; but, so far as I have been able to discover, no case has yet been reported where the immediate operation has resulted badly, either as regards the recovery of the patient, or as regards any unfortunate after effects. Nor have I found any case reported where the operator failed to find full justification for operating in the threatening condition of the appendix. Whereas, in many of the cases, where outwardly there was little evidence of the necessity for surgical interference, the internal conditions were found to be such as were certain to have caused dire results to the patient if not death itself. I have myself been able to report several such cases¹, where I succeeded in amputating the gangrenous appendix before it became perforated and before there was a drop of pus in its neighborhood; where there was no surrounding abscess wall to exclude from the general abdominal cavity the fearfully foul discharge that soon would have occurred through the rapidly dissolving wall of the appendix; but, instead, only

cobweb-like adhesions between coils of intestines in the neighborhood.

No one who has ever operated in such a case—after experiencing the ease with which the offending organ can be found, brought up through the abdominal incision, and there excised—would hesitate in choosing the earliest possible occasion for operating, so far as his own convenience and the safety of the operation is concerned.

The first case, so far as I am aware, in which this early operation was done was briefly reported by my colleague, Dr. E. R. Cutler, to the Boston Society for Medical Observation, January 7, 1889, and published in the *Boston Medical and Surgical Journal* for June 6, 1889.

The diagnosis in that case was made from the presence of pain and tenderness in the right inguinal region, accompanied with fever. There was no resistance to pressure, or dulness on percussion. The operation was performed at the end of forty-eight hours. The gangrenous appendix was easily found. There was no pus in its neighborhood. It was amputated, and the patient made a perfect and speedy recovery. He left the hospital and journeyed by railroad twenty miles to his home, on the fourteenth day after the operation, and has since been a perfectly well man.

The appendix in this case had already become perforated, probably, although in manipulating it into view its thinned, friable walls may first have suffered perforation.

The brilliant result in this case had great influence in determining the treatment of our subsequent cases. Of the twenty-one cases I have since

¹ See, for instance, Case No. III in the *Boston Medical and Surgical Journal*, Vol. CXXII, No. 5, p. 98.

had the honor to report,¹ in eight cases the appendix was amputated before it had perforated. In four other cases where the appendix was removed it was found to be perforated. In only one of these cases was there a fatal result, and in that case (June, 1889) operation, though strenuously urged, was not allowed by the patient's family until after several days' delay. Such a case should not be considered in discussing the advantages of immediate operation. In a similar case I should not now consent to share with the family the responsibility of delay.

SUMMARY.

(1) Appendicitis is an inflammation

of a useless organ, dangerously situated.

(2) At the beginning of an attack it is not possible to determine whether it will prove of the harmless or of the dangerous kind.

(3) The diagnosis is easy in comparison with the task of diagnosticating the seat of any acute inflammation.

(4) At the beginning of an attack the excision of the appendix is an easy and a perfectly safe operation.

(5) If so treated, all complications and all subsequent attacks are avoided.

(6) In view of the results already obtained by following this treatment, no other treatment is worthy of consideration.

Intestinal Lesions in Abdominal and Pelvic Surgery.²

BY JOSEPH PRICE, M.D.,
PHILADELPHIA.

AN exhaustive consideration of intestinal lesions in abdominal and pelvic surgery would make a very lengthy paper. I simply desire to present salient points of importance for consideration, hoping to elicit a full discussion of a most important subject to all practically interested in abdominal and pelvic surgery. To fully appreciate the importance and character of all lesions found in dealing with pelvic and abdominal growths, it is im-

portant, First, to consider the natural history of all *hard* and *cystic growths* or *accumulations*; Second, of all *inflammatory* or *suppurative* forms of disease in the pelvis. The complications incident to the growth of cystoma, fibro or myomatous tumors, have been most carefully studied. And the accidents to surrounding viscera in the removal of these are not so much feared as injuries to the hollow viscera in dealing with the suppurative forms of pelvic disease. It is altogether exceptional to find advanced forms of suppurative tubal and ovarian disease

¹ Twelve cases were reported to the Surgical Section of the Suffolk District Medical Society, April 9, 1892.

² Read before the Obstetrical Society of Philadelphia, April 7, 1892.

without omental and intestinal adhesions. Again, it is exceedingly common to find such troubles complicated by universal adhesions to all that surround them. The presence of a suppurating tube, or ovary, or a neglected ruptured tubal pregnancy, or dermoid of either side, gives us extensive adhesions to all surrounding viscera. I have repeatedly found the appendix vermiformis strongly adherent to abscesses on the right side, sometimes it has been cheesy and disorganized, necessitating its removal. Twice this week I have removed the appendix while dealing with suppurating tubes and ovaries. The importance of the numerous complications and a practical knowledge of how to deal with them is vital if we are to attain a low mortality in the angry and neglected forms of pelvic disease.

Again, there is a large group of complicated cases that we are now driven to deal with. I allude specially to the incomplete or half done operations coming to us for completion. You know that the sequelæ of imperfect or incomplete operations occasion the most trying and puzzling operations we have to deal with. It has been my misfortune to have more than my share of this group. Aside from the anxiety they have given me I have learned much by having to do so much of this new surgery. Another group of complications, following *non-drainage*, and irritating solutions, has given us quite a number of operations for the relief of their sequelæ. Just here I might say that many complications demanding our attention will follow all forms of open treatment. I allude to the *gauze pack*. Simple and well directed surgery, the least possible manipulation and exposure, clean sur-

gery, from its inception to completion, the application of tried and well-established methods, in the hands of the successful, commonly give perfect results. We have almost ideal methods at present, and our results fortify this statement. Again, an accurate knowledge of the pathology, and physical characteristics of pelvic troubles, with an accurate practical knowledge of the numerous complications to be met with, will obviate many accidents and injuries. Again, the application of the well-known methods of repairing bowel lesions will also give perfect results if well applied.

We find that complications do not confine themselves to one system of organs, but extend to all surrounding structures, by reason of inflammatory adhesions. This is true of bladder, ureters, intestine, omentum, stomach, and liver. Adhesions are the bane of abdominal and pelvic surgery. They are worse in pelvic troubles, because we have a clinging to ancient pathology, and are influenced by narrow prejudices, by traditions without value, even as memories; we reject, neglect or delay the use of those methods of dealing with troubles in the abdominal cavity which have the high approval of successful surgical experience. Hence we see that the greatest mistakes and failures are made by those who, from a knowledge of abdominal surgery simply, have attempted to deal with pelvic inflammations.

In the first place, take adhesions: these, in all pelvic disease, are apt to fuse the adjacent structures until they seem to be one conglomerate mass, and their integrity is threatened with destruction by the efforts to separate them. This is true in all delayed cases where cheesy, disorganized sur-

faces are to be dealt with. Here, if we follow the rule of the general surgeon or the post-mortem investigator, calamity will be our result. We cannot use either knife or scissors to aid us. The dexterous use of the finger is our only resource. We must not expect or attempt to force our way with violence. Our only hope is to investigate carefully, to find a plane of cleavage, such as the mineralogist finds and utilizes in his scientific investigations. These exist no less truly in inflammatory adhesions, and it is along such lines of cleavage that the path of separation must be sought. As they cannot be seen, they can only be felt; and it is here that his delicate tactile sense comes to the aid of the experienced surgeon and enables him to distinguish between lines of cleavage, and advances into the structure of the organs which it is necessary to preserve. Once having separated adhesions, it becomes necessary to deal with the hæmorrhage that often accompanies their breaking up. Hæmorrhage here is what hæmorrhage is nowhere else. Ligatures will not control it, styptics cannot be used safely, and pressure cannot be applied indefinitely in the usual way. How, then, shall we control it? First, we must resort to hot water—hot as the surroundings will tolerate, without being cooked or losing their vitality. I have in mind a recent patient that I almost lost by neglecting to flush the pelvis after a trying operation.

We must get out of our heads and out of our practice the theory that irrigation is dangerous. In feeble, exhausted patients, exhausted from prolonged suppuration, emaciated and feeble, shocked by a greatly complicated operation, where the pelvis has been

emptied of quarts of pus—and in cases of huge abscess, omental, bowel and universal pelvic adhesions, irrigation is something more than a merely elective or suggested procedure—it is essential, imperative, as a need to secure swift and complete recoveries.

I have had operations followed by flushing, with as much as *five gallons* of water, the patients making speedy, and, in every way, satisfactory recoveries. Recently, in one week's experience, I irrigated freely nine patients. In not one of these cases was there an alarming or even unfavorable symptom—no shock, no hæmorrhage, normal temperature, clean tongue, slow pulse, no distention throughout the convalescence. These were all severe operations in unpromising subjects. There were numerous bowel lesions in four of the group. It is in this class of cases that the most painstaking care should be taken. The first and vital claim to attention is the adhesions and lesions of the bowel; second, thorough douche and toilet; third, perfect drainage. There is *but one good and successful treatment* for suppurative forms of pelvic and abdominal disease: First, section and removal of the offending material; second, flushing; third, careful drainage.

INTESTINAL ADHESIONS—HOW ARE WE TO DEAL WITH THEM?

It is evident that the integrity of the bowel is to be maintained, that all adhesions must be freed. Hence, if it is injured, it is to be stitched up with the finest possible silk, in the neatest possible way, and so as not to interfere with its functions. No holes are to be left in the omentum, and stringy masses are to be carefully tied off. We should pay special attention

to bringing the omentum down into as near a physiological position as possible. Leaving it to itself, where it may contract adhesions at will wherever it pleases, is a sure way to have after-complications to deal with. If it is to adhere to anything, it should be put where it will be likely to cause least trouble. Re-operation on old cases is a most discouraging condition to contemplate. One never knows what is going to be found. There is often very little to be hoped for, and, however great the care, the results are often bad.

One great cause for re-operation has now been banished—I mean the use of strong antiseptics, in solution, spray and otherwise. They formerly were at the bottom of a great deal of post-operative inflammation. The direct method of dealing with all pelvic inflammation is urgently to be advised. Prompt enucleation cannot fail to be more satisfactory than any other means. Puncture per vaginam, vaginal incision and drainage, is easily disposed of as unsatisfactory, incomplete and often dangerous. When enucleation is practiced, we have under our eye or touch the essential relation of the parts and their environments, and we also know to what extent the mischief is confined to one set of organs, and whether it has complicated this or that structure. Not so when any of the so-called conservative methods are used. Here we grope in the dark. We wait until this or that set of symptoms is developed, and vainly strive to justify the methods of delay by imaginary refinements of diagnosis, which cannot be made outside the pelvis, to say nothing of their impossibility inside of it. In point, and to illustrate some of our statements, we will give

facts from the surgical experience of Dr. Paul F. Mundé, as given by himself in a discussion before the New York Obstetrical Society, and published in *The American Journal of Obstetrics* for March, 1892: "During the last few years he had opened *forty* pelvic abscesses through the abdomen, *eighteen* through the vagina, and four through the abdominal wall and vagina at the same time. In several cases he had punctured the vaginal wall in order to secure thorough drainage, abdominal drainage not being sufficient. In three of these cases, while drawing the drainage tube through from the vagina to the abdominal wound, the bladder was accidentally wounded."

Consider a total of sixty-two cases of accumulation of pus in tubes and ovaries, due to occlusion and suppuration, that dilatation of the tubes in a majority of this group "attained the size of a breakfast sausage, a banana or a closed fist." In this group the practical surgeon can understand that vast number of serious complications following: First, the delay, and, secondly, the palliative methods of so-called treatment. Early primary sections, with complete removal of pus sacks, would result in a nil mortality. A large number of the group referred to have gone into the hands of other men for treatment. Such cases are constantly coming to me; and, well knowing how much more complicated they are, I dread them. In somewhat the same line, Dr. Mundé says: "We have boils and abscesses in the cellular tissue of other parts of the body. Why should we not have them in the pelvis?" And, again, in a recent publication: "The empty sac, lined by *pyogenic membrane*, may, for an unlimited time, go on pouring out

pus." The comment I would make very brief; boils and true abscesses are not empty sacs.

Again: "We will all admit that many cases of 'pelvic abscess' in former days were really adherent pyosalpinx. I have, doubtless, punctured many a one in past days, never dreaming that it was anything but an abscess in the pelvic cellular tissue. I know better now." The comment can here be made: no longer is it a boil or an abscess in the cellular tissue.

"One of the great problems in my experience," says Dr. Mundé, "has been the sinus that is liable to remain after opening the abscess. I am sorry to say that I know of no sure way to prevent or cure them as yet. I have enlarged the wound over and over again, scraped them, cauterized them, punctured through into the vagina, and ran drainage-tubes through, hoping the opening would close from above downward, but all of no use. I have, I suppose, a dozen women walking about this city now who are wearing different sorts of drainage-tubes. I would like to have some gentleman tell me how I can prevent these sinuses in the first place, and, in the second place, how I can heal them up." In the interest of the patient, the best thing to do in such cases—in fact in all cases where we don't know how—is not to attempt to do the operation, but send the patient to some one who first understands the pathology; and, second, the surgery. To cure these sinuses remove

the remaining diseased tube and ovary. This will do away with the necessity of "walking around wearing drainage-tubes;" a very uncomfortable interference with locomotion.

My plea is for exact knowledge and painstaking work, that shall leave nothing for regret, nothing if possible to do over, nothing to explain or apologize for; that when put beside methods that palliate without curing and are no more a part of real surgery than hypnotism is refreshing sleep, shall stand in the light of results as justifiable, scientific and perfect as possible, within the limitations of our human art and science. And that no effort be spared to make complete the ordering of all the conditions surrounding the patient, blind, destructive methods of manipulation are to be deprecated. The operator should know his whereabouts, and what he is dealing with. Severing or lacerating a bowel, the rude removal of strongly adherent pus tubes or ovarian abscess is to be condemned as bad surgery. A familiarity with or knowledge of bowel-feel or sensation, or an educated sense of touch, that is always quick to recognize the presence of bowel, would prevent many accidents, render operations short and complete. Finger knowledge of pathological landmarks, also that mental picture one carries after doing a large number of trying pelvic operations, will save many lives. As one's knowledge grows by experience, so does judgment, interest and care grow in refinement.

De Pessario in Femina Octo Annos Retento. Casus Rarissimus.

A. SACCONI, M.D.,
PINE BLUFF, ARK.

INTER ægritudines, quas non solum mulieres, sed etiam virgines sufferunt; sæpe multum prolapsus uteri, ejusque ante—ac retroversio dantur.

Ad quas sanandas priscis jam ab hinc temporibus et usque ad præsens, diversi methodi tam per medicamenta et manipulationes idem ac instrumenta, quæ pessaria vulgo vocantur, illustrissimi Doctores in usu et habebant, habentque.

Casus de quo loquar, modo pessarii medetur, de quo nobis historia ægitudinis clare persuasos habebit.

Mulier Wm. Jones, primo ex matrimonio J. B.—Manchester (Britannia) nata, annos quadraginta quinque degens; anno millesimo octogesimo septuagesimo sexto puero vitam dedit. Nascente infante, conjux diem supremam obiit. Et paupertate et destitutione vexata; quinque cum parvis infantibus, et sexto adhuc nato; omnibus, quæ ad sustinendam vitam necessaria erant,—caruit; et nondum tot derelictum est, ex quo conjux efferetur, ea de causa tertia die post partum lecto surrexit, munusque ancillæ suscepit, et statim domesticis et rusticis operibus fungebatur, ut seipsam infantesque alere posset.

Istis laboribus duos per annos operam navavit; sed neque unquam pristina valetudine gaudebat. Quum longius dolores ferre non potuisset; consilium a medico peritissimo O. N. Knight, qui eo tempore præses nosocomii Manchesternensis fuit,—petiit; qui examinatione facta constituit:

“eam prolapsu uteri laborare;” atque pessarium inseruit; stricte prohibens, ut omnibus laboribus careret, nihilque quod ponderis esset, portaret, et si quid incommodi sentisset iterum consilium ab eo peteret. Omnia quæ facere jussit, ad amussim sequebatur, et circa duorum mensium spatio, pristinae valetudinis integritatem sibi esse putabat; iterumque omnibus laboribus operam navavit, ideoque consilium medici non amplius necesse videbat, relapsoque tempore pessarium ex memoria deposuit.

Anno 1886 provigna, quæ Alton, comitatu Madisonensi, in republica Illinoiensi habitabat, pecuniam ad eam misit, ut veniret et domi illius vitam degeret. Postero anno Dominus Wm. Jones eam sibi uxorem adjunxit, quæ præter constipationem optime valebat; sed, matrimonio consummato, dolores præsaginantés convulsionesque cum hæmorrhagia ac hysteria eam maxime vexabant. Hebdomadibus relapsis, semper semperque pessimam se esse putabat. Conjux tandem consilium a doctore Frank Wordon petiit, qui examinatione facta, a tribus peritissimis collegis opinionem postulabat, ut quæ opus essent secum conferrent, qui diagnosim ejus corroborabant, nempe: *“pessarium vaginae incrementum;”* ac illæ domi medicinam propter incommoda nullo modo facere potuisset; ea de causa Dominus Wordon, jurejurando interposito, judicem Cyrum Cook die 17ma Septembris, 1887, rogavit, ut eam ad nosocomium acci-

peret, quo facto decretum mihi datum fuit, ut eam acciperem, quo tempore officio medici chirurgique institutionis fungebar.

Die undevigesima istius mensis in nosocomio eam examinavi.

Quamquam optimo appetitu semper gaudebat, tamen si medicamentis non uteretur, totam per hebdomadem ventrem non evacuit, qui tympanicus se demonstravit. Convulsiones et pericarditis ad constipationem adscribendæ fuere. Perineum paulisper laceratum erat labia majora minoraque, et vulva tumiditate laborare. Speculo nunc adhibito sequentia ad conspectum venerunt: "Vagina angustissima et sicca et extrema inflammatione subacta, in sinistrum latus vehementissime promotam esse demonstrabatur. In pelvi minore et usque ad os sacrum præsentabat id, quod unusquisque pro cortice theobromæ tenuerit, magnitudinis capitis infantis. In sinistrum latus foramen parvum datur, per quod tantum menstruatio locum habere videbatur; quoniam isto ex foramine materia mucosa, fluori albo similis cum sanguine coagulata se exinanivit. Ut accuratissime persuasum mihi haberim nihil derelictum esset, tantum explorationem cum sonda fecere quo facto vacuum sonitum sicut ex testa dissulta plane audiui. Nunc cum forcipibus superiorem ad os sacrum, iterum inferiorem ad os coccygis istius testæ partem tetigi; et statim mulier maximum dedit plangorem, doloresque sicuti ad partum et convulsiones vehementissimas sustulit ac statim syncope relapsa est; ex quo clare patebat: "*pessarium immobile et eo magis invisibile dura massa petrosa coagulatum, vaginam coalescere debere*;" idem ac Dominus Franciscus Wordon cum collegis doctissimis de-

claravit; ergo meum erat, hanc diagnosis sine ulla hæsitatione non tantum et corroborare, sed etiam pro facto accipere. Omnia quæ observavi vidi-que aperto pectore confiteor, ut timore perterritum me putarem; quoniam de casu tam sontico neque adhuc legi, nec audiui; et certior me esse puto: neminem illustrissimorum Doctorum adhuc similem et invenisse et observasse. Causa improvisorum quæ ex symptomatibus accedere potuissent, invitus quidem feci, ne ad operationem stante pede procederem, nam mulier viribus deserta, operationi succumbere posset; ea de causa necesse erat in mente sequentia habere: (a) Inflammationem genitalium atque vaginæ reducere. (β) Constipationem removere. (γ) Medicamentis roborantibus vires sustinere. Quoad primum jussi: R. Antiseptin (Cooper's): ̄ ij ad aquam calidam, ̄ viij. Sig.: pro una vice tres per diem vaginam injicere., atque: R. Balsami Peruviani, ̄ ij; olei eucalypti, olei verbenæ hastatæ, āā ̄ ss; olei amygdalarum dulcium, q. f. ̄ x. Sig.: Tertiam partem, tres per diem in vaginæ cavernam infundere, atque cum tamponem vaginam et partes externas optime claudere.

Quoad constipationem: R. Farina lini, ̄ j; aquæ bullientis ad collaturam ̄ xij. Sig.: Dimidiam partem inice per rectum mane et vespere. Atque aqua magnesiæ citratis, ̄ xij. Sig.: 1 ad 2 unci: mane et vespere. Roborantia ex ferro ac kali bromidi, cochlear parvum unaquaque tertia hora constituebant. Tali modo ægotam quatuor dies tractavi, et quinto tandem (23tia Sept.) iterum examinationem feci. Labia majora et portio anterior vaginæ statum prope normalem demonstrabant; et nunc speculo sine dolore ac faciliter in vaginam imposito-

fragmentum duorum centm : in vagina jacere vidi, et nunc inferiorem partem pessarii prima vice ad oculos habui. Fragmento quod in vagina jacebat remoto; periclitationem feci, aliquod adhuc cum forcipibus frangere et cum tetigerim, fragmentum trium pollicum abrui, et statim hæmorrhagia accedit; mulier dolore correpta syncope incidit; sed adhibendis roborantibus brevi tempore ad se rursum venit, et hic longiori explorationi destiti. Vaginam iterum lavare, atque temponade ut primum claudere jussi. Ex istis fragmentis clare apparuit, calcinationem istam mollire ac facillime pertritam esse posse. Postero die ac subsequentibus mulier se optime habebat. Ventrem bis per diem evacuabat, appetitu mediocri gaudebat; similibus medicamentis ergo utebar.

Die undevigesima, iterum examinationem peregi. Abdomen ad latus sinistrum paululo tympanicum, ad dexterum tamen prope naturale erat. Ex partibus externis nihil abnorme videbatur; vagina iterum speculo explorata, propter materiam sanguineam cum arena crassa fragmentis nonnullis impleta eundem statum, ut primum præsentavit. Hisce remotis, aquæ callidæ injicere jussi, et cum ea facta essent, iterum curabam, ut aliquod fragmentis abrumperem, et adjectis forcipibus uno tractu reliquam crustationem extraxi. Hæmorrhagia iterum occurrit; sed paulo post, cum injectione ex Liquore Ferri Perchloridi 1-100 fluxum mitigavi, vaginam iterum lavavi et nunc totum pessarium ante oculos habui; hujus pars externa et præsertim inferior ad os coccygis, se firmiter vaginæ adjunxerat. Mulier præter clamorem hasce manipulationes optime sustulit. Medicamenta tam externa quam interna continuare proposui, et ad extractionem per viam

naturalem accedere putavi. A viro E. H. Weir, collega optimo consilium petii, qui stante assistere promisit, et diem quintam Octobris sanximus.

Om nibus ante præparatis, ambo ad nosocomium hora decima ante meridiem venimus. Collega dilligentissimam examinationem peregit, et propter pericarditem, anæsthetica non utere censuit; tantum subcutaneam injectionem: Morphie sulph., $\frac{1}{6}$ gr., propriam esse, atque vaginam cum unguento: Cocaini muria, gr. iij; Vaselini, $\frac{5}{8}$ j, optime inungere, arbitrabar. Cum omnia facta fuissent, forcipes adjeci, uno motu, pessarium parictibus vaginæ adhærens extraxi et ipso momento ad lucem redegi. Mulier nec dolores nec ullaquaque incommoda sentiebat. Fluor sanguinis locum non habebat, solum materia mucoso-sanguinea effunditur. Vagina lota, vidimus ubi pessarium obsolevit; obstipa cervix fissuram carnosam tangebatur.

Ut breviter sim, necesse est omnia quæ post extractionem pessarii accederunt, omittere, tantum adnotare quod quamvis multo plus sanguinis perdidisset, longiore demum tempore intercedente convalescebat et ad pristinam valetudinis integritatem restituta fuit, atque die prima Januarii, 1888, nosocomium deseruit; et quantum mihi notum est (ultima vice eam duos post annos vidi, cum Alton adii), matrimonium sine ullo incommodo et detrimento consummavit, et mente et corpore optime valet. Clare ergo patet: "*pessarium ægritudinis post matrimonium contractum causa fuisse.*" Ultimo, ex illustrissimis doctoribus nunc casum lecturis, benigne mihi quærendum est: (a) Quomodo factum est, pessarium ex gutta-percha calori continuo subjectum—non liquefactum esse? (b) Et eo magis cur mulier

endometrite aut peritonite diem supremam non obiit? Et (c) quomodo calcinatio ista oriebatur, derelicto foramine, ut menstrueretur?

Si quis doctorum optimorum hoc ænigma solvere velit, certiozem eum facio, semper semperque grato me corde ostentare; quam quod similia nunquam adhuc ad lucem veniebant, et simul cum Ennio inquam: "Amicus certus in re incerta cernitur" (Cicero de Amicitia, Cap. xvii, § 61).

EXPLANATIO PESSARII.

Pessarium demonstrat calcinationes utriusque partis, quas post extractionem adhuc adhærebant.

No. 1.—Demonstrat partem posteriorem ad uterum adjacentem.

No. 2.—Pars ad vaginam, quæ occulis subjacebatur.

aa.—Ubi foramen erat, et quo materia et sanguis menstruosa effluebant.

bb.—Portio pessarii inferior (ad os coccygis) maxime in vaginam increta.

cc.—Hic obstipa cervix fissuram carnosam tangebatur.

dd.—Superior pars pessarii parietibus vaginæ obsolevit.

[The interest excited by the publication of Dr. Sacconi's paper; in Latin, in this journal, in September, 1891, was much greater than we had anticipated. Not only was the article reprinted in full in the *British Gynecological Journal*, but many letters were received from men, eminent in the profession, both in this country and in various parts of Europe, expressing the greatest satisfaction that a professional communication had been written in Latin and published in that language in the ANNALS OF GYNÆCOLOGY AND PÆDIATRY. In view of this widespread interest in the subject, it is hoped that the foregoing valued article, will prove acceptable to very many readers of the ANNALS.]

ED.

A Case of Chronic Metritis with Retroflexion, Treated by Electricity, with Remarks on the Limited Value of Pessaries in this Condition.¹

BY G. BETTON MASSEY, M.D.

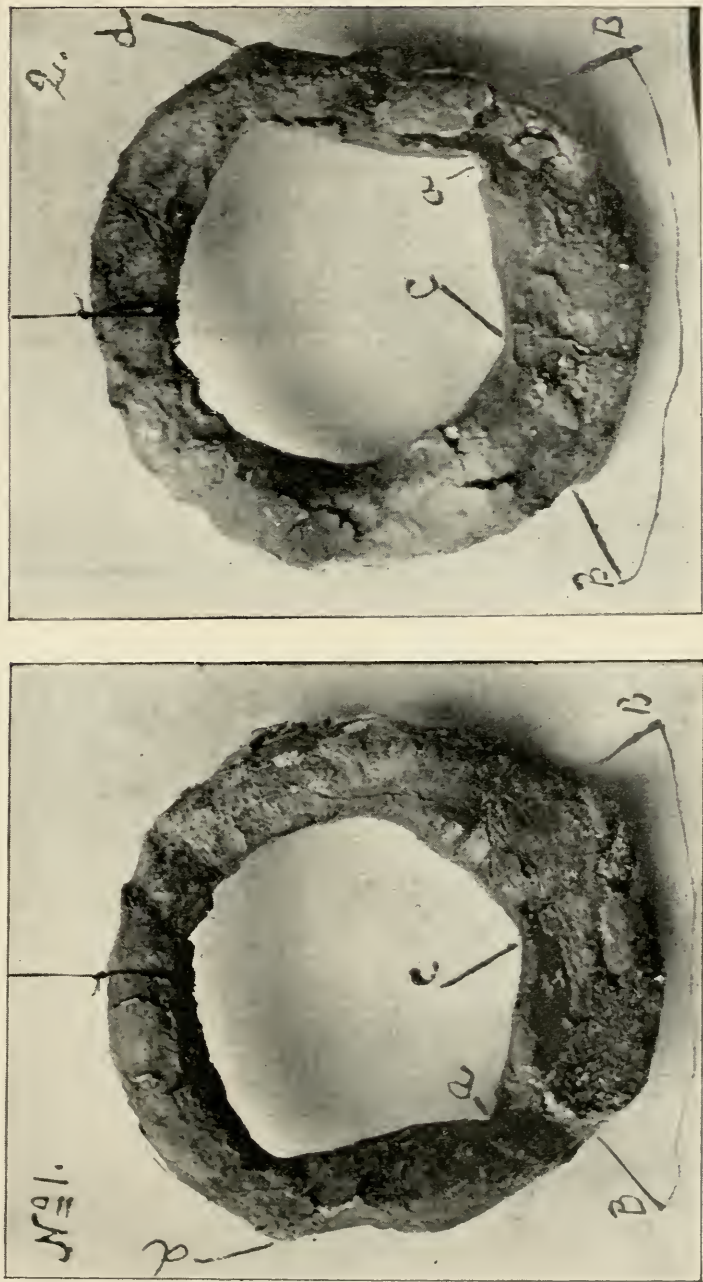
THE following case is not reported as a curiosity, but rather as a typical example of a frequent experience:

A wholesome-looking, well-nourished lady of 31 consulted me some eighteen months after the birth of her third child. She complained of sac-

ral aching and a bearing-down sensation that made her miserable whenever she was on her feet. Her only time of tolerable comfort was early in the morning; by 9 o'clock in the evening she was exhausted and compelled to retire. She had no menorrhagia; the flow was scant, and leucorrhœa considerable, because of inspissation.

¹ Read before the Obstetrical Society of Philadelphia, April 7, 1892.

PLATE I.

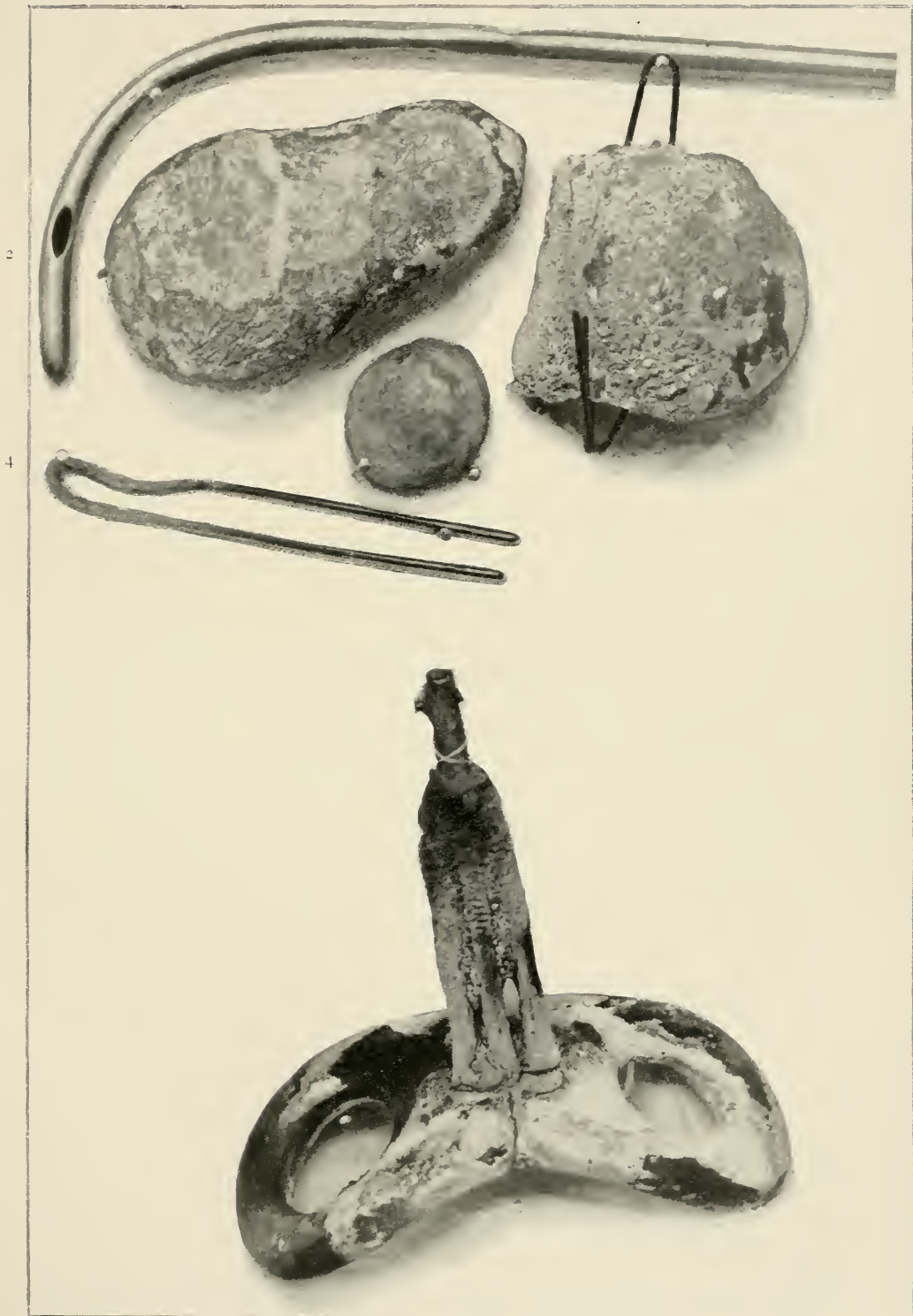


PESSARY RETAINED EIGHT YEARS IN VAGINA.

- 1. Posterior part adjacent to the uterus.
- 2. Visible part, presenting in vagina.
- aa. Aperture through which purulent matter and menstrual blood escaped.
- bb. Lower part of pessary, next the coccyx, particularly covered in by vaginal tissues.
- cc. Where the displaced cervix touched the granulating fissure.
- dd. The upper part of the pessary buried in the vaginal wall.

PLATE II.

I



Examination showed an eroded os, discharging a muco-purulent material, and an enlarged and retroflexed uterus, with a capacious cavity four inches in depth. When the fundus was pressed on, through the posterior vault, it was decidedly tender, and could not be entirely straightened without undue pain. That the case was not one of subinvolution only, was shown by a history that extended back to a previous subinvolution after the birth of her first child. Since that time there had been a variety of local methods of treatment used without avail, and she had been finally dismissed by her physician, with the remark that she would get well when she became stronger, though her general health was excellent.

I had, evidently, to deal with a case of chronic metritis, complicated by retroflexion and perimetritis, at a stage of the disease when the endometritis had become comparatively quiescent, and before the stage of involvement of the general nervous system. The disease was yet distinctly local, and evidently required local treatment only. She had had considerable treatment, based on the theory that the displacement was the primal trouble, and was then wearing a soft-rubber ring pessary, that she thought gave more relief than a Smith-Hodge, that had been used at first. The treatment adopted by me was based on the belief that the source of the discomfort was entirely traceable to the inordinate size of the uterus, and to the irritation of an old inflammatory hyperplasia. All the well-known methods of treatment having failed in more or less competent hands, the application of electricity was at once begun. As is cus-

tomary with me, the cavity of the uterus was not at once invaded by either sound or electrode, in view of the possible presence of a subacute inflammation—the treatment at first being vagino-abdominal, 30 milliamperes positive, followed by the fine wire faradic current. The cotton-covered electrode within the vagina was placed in the posterior vault and pressed gently against the tender spot. As the patient was afraid to go home without the pessary, it was reinserted at the termination of the treatment. The second application was made at the end of five days, at which time she felt slightly better; but this time I felt warranted in using the intra-uterine method, finding the cavity four inches in depth. By means of my spiral elastic electrode, a positive application of 30 milliamperes was made to the cavity, followed by vaginal alternatives of 60 ma. The subsequent report justified this, as there was even no temporary inconvenience, but rather increased comfort. After the fourth treatment of this kind the cavity was found to be but three inches in depth, each treatment giving relief for some hours afterward, though not continuously. Being now convinced that the pessary was a source of irritation, the patient was persuaded to leave it out, and, to her surprise, found that the relief afforded by the treatment lasted three or four days. She could now “walk all over town,” as she expressed it, immediately after treatment—a feat which she was strictly enjoined not to attempt. The tenderness and weight recurred after some of the intra-uterine treatments that were not followed by rest, though, fortunately, but five of this variety of applications were necessary, interspersed between

twelve vaginal treatments, when she was discharged cured. The last measurement was two and three-quarter inches. At that time the posterior flexion was lessened, but still present.

It is clear that this case would have been regarded by many, and was regarded by her previous attendants, as one in which the primary fault lay in the flexion; but I am by no means of the opinion that such pathological views are correct. There are many posterior flexions of primal importance, it is true—cases with a history of a fall or jar, or an otherwise suddenly developed posterior bending; but in these cases a reposition of the displaced fundus and its temporary maintenance by a pessary is quickly curative. The persistent flexion, accompanied by enlargement and such tenderness as to make the comfortable wearing of a carefully adjusted pessary impossible, must be of a different nature. In this variety the flexion is symptomatic of metritis, rather than a cause, as often alleged, and is best treated by means that allay inflammation, promote absorption, and restore tone to the uterine muscle. To put a prop beneath these tender organs and press them up

against the abdominal contents will not cure them, but only increase the suffering by adding to the pressure, and, if worn for a long time, such artificial aids lessen still further the natural sustaining powers of the uterine supports. Our course here should be to reduce the redundant size, and in many instances this will remove all suffering. Mere crookedness will be left, it is true—a matter of no pathological importance.

A freely movable retroflexed uterus is one in which a local atrophic degeneration has occurred in the portion of the uterine substance on the concave aspect—a true parametritis without perimetritis, in which, in common with the phenomena of myositis in other parts of the body, we have the stages of proliferation, fatty degeneration and sclerosis—a series of conditions that cannot be remedied by any amount of forcible efforts at straightening. The number of women thus affected is considerable, though in the stage of sclerosis no suffering is felt; and it is an odd fact that this deformity will not be cured by pregnancy, but will return, again and again, after the establishment of involution.

The Use of Morphia in Eclampsia, with a Report of Two Cases.¹

BY W. REYNOLDS WILSON, M.D.

I DESIRE in reporting the following cases to bring to the attention of the Society a form of treatment which deserves a more careful study than

has hitherto been devoted to it. Morphia should not be relied upon as a safe means of treating every case of eclampsia, but there are cases in which its use can be replaced by that of no other form of treatment. The

¹ Read before the Obstetrical Society of Philadelphia, April 7, 1892.

first of the two cases which follow, although not an absolute proof of this latter proposition, shows a result which compares more than favorably with that obtained by the more accepted plans of treatment. The second case affords an instance in which the indications for treatment were met exactly by the use of morphia.

Case I.—The patient, a primigravida, aged 21, was admitted to the hospital, without history, at 9 P.M., March 10, 1890. She was delirious and restless. Her countenance was œdematous, corresponding to the general œdema which was present. The os admitted one finger. There were no labor pains. The foetal heart sounds were detected on the right side below the umbilicus. The first convulsion after admission occurred at 9.25, the next at 10.5, the next at 11 and the last at 6 A.M., March 11. At 2 A.M. the patient was in a state of narcosis from the effects of morphia, which was given after each convulsion in the following doses: .01 gramme, .01 gramme, .02 grammes, .02 grammes, amounting to .06 grammes, or gr. $1\frac{1}{3}$ in eight hours and a half. Chloroform was administered at the time of each convulsion. At 8 A.M. the patient showed great restlessness, probably due to labor pains. The labor was terminated naturally at 2 P.M., the second stage lasting only a half hour. The child, which was born at the end of the eighth month, was living. The urine, upon boiling, after the addition of acetic acid, showed albumin equal to one-third the volume. The secretion in twenty-four hours amounted to twenty-one ounces. The patient was

discharged on the sixteenth day; the œdema had almost disappeared, and an examination of the urine showed a small amount of albumin and granular casts.

Case II.—A Pole, aged 20, also a primigravida, was admitted to the Lying-in Charity, October 16, 1891. In the eleven hours preceding her entrance to the hospital she had had thirteen convulsions. She was comatose in the interval between the attacks, but the approach of each convulsion was marked by restless delirium. Morphia was administered hypodermically as follows:

5.30 P.M.	gr., $\frac{1}{2}$
9. 0 P.M.	gr., $\frac{1}{4}$
2.30 A.M.	gr., $\frac{1}{8}$
5.30 A.M.	gr., $\frac{1}{8}$

During the afternoon of the day succeeding that of her admission she was given gr. $\frac{1}{4}$, making gr. $1\frac{1}{4}$ in twenty-four hours. Between the hour of admission (5.30 P.M.) and 11 P.M., in which time gr. $\frac{3}{4}$ had been given, there were but three convulsions, each less severe and of shorter duration than the preceding. The patient was bled at 11 P.M., on account of the vascular tension, shown in the congestion of the face and throbbing of the arteries. Fifteen ounces were abstracted. The convulsions ceased after this, but the morphia was continued, as noted above, to control the restlessness. During the next twelve hours sufficient morphia to keep the patient narcotized was administered. Within the sixteen hours after admission twelve ounces of urine, containing one-third volume albumin, were voided. Elaterium, gr. $\frac{1}{6}$, calomel, gr. iii, were given. On the morning of the second day labor came on, and in

five hours after the first signs were noticed a macerated child was born. The hospital chart gives the following:

Duration of first stage, not noted.

" of second stage, five hours.

" of third " six "

Extraction of placenta.

On the day following her labor the patient suffered from a chill, the temperature rising to $101\frac{2}{3}^{\circ}$. Necrotic shreds of decidua were removed by an intrauterine douche. The patient's recovery was uninterrupted, and she was discharged on the twelfth day. An examination of the urine, obtained by the catheter two days after labor, revealed a few granular casts. The quantity of albumin gradually decreased until upon dismissal a mere trace was revealed by the ring test. In this case only slight œdema was present.

The first of these cases I had the privilege of observing under the direction of Prof. Winckel. The treatment was outlined by him, notwithstanding his advocacy of the use of chloral. In his work on obstetrics (1886) he describes his treatment as follows: "When convulsions supervene I treat them, without exception, with chloral, gr. xv-xxx at each dose, by enema, and with chloroform. As soon as the patient becomes restless and the first signs of an approaching attack appear, chloroform is administered and continued until the spasms have ceased. The chloroform serves as a sedative until the chloral can act. The dose of the latter is repeated after each seizure, and the amount is increased without risk, until three drachms in twenty-four hours are given." His recognition, however,

of the claims advanced for morphia appears in the following sentence: "It must by further observation be shown whether morphia will exclude the accepted treatment by chloral and chloroform."

In studying the treatment of eclampsia, it is important, first, to distinguish between the form of treatment, which is effective in the convulsive stage, and that in the stage of threatening intoxication. Veit, the strongest advocate of morphia, recommends in his clinical teaching, not the exclusive use of morphia, but its combination with eliminative treatment. Winckel, who is the exponent of the chloral treatment, emphasizes as an introduction to the subject of the therapy of eclampsia the usefulness of the treatment by catharsis and diaphoresis as follows: "In the last ten years I have come gradually to the adoption of the following measures, the advantages of which I have recognized over those of other forms of treatment. To every gravida whose urine contains albumin to a marked extent, is given, daily, a pill of aloes and colocynth, in order to induce a decided cathartic effect. In addition to this a warm bath is given. Secondly, we must consider the previous history of the case, the amount of albumen which has been present, the presence of tube casts, the deficiency in the excretion of urea and the severity of premonitory symptoms; for on these depends the choice between the induction of labor and palliative measures. Thirdly, we must take into consideration the constitution of the patient. Strong, full-blooded women, who present the signs of vascular

obstruction, are benefited by bleeding. In eclampsia we not only have the condition so aptly described by Auvard as a "strike on the part of the organs of elimination," but we have also three other elements entering into the pathology, namely:

(1) The presence of a source of irritation.

(2) The increased vascular tension.

(3) The increased nervous tension.

Venesection certainly relieves two of these conditions—the two former—by eliminating some of the poison in the blood and by reducing the vascular tension. How far the effect, in these directions, of the bleeding influences the third element in the pathology, the increased nervous tension, is a question of much importance.

Morphia on the one hand and chloral on the other are given to meet special indications, and are not advocated, either as substitutes for other forms of treatment or to the exclusion of important accessory measures. Morphia is no longer useful when the convulsions and restlessness have ceased and the patient has fallen into coma. Its influence lies in its power to control convulsions; its danger is to be looked for in its effect upon the process of elimination. Whatever may be the pathology of eclampsia and whatever the relation between the condition of the kidneys and the convulsions, it is clear that in eclampsia elimination is checked. When elimination is restored by diaphoresis, venesection or diuresis, the patient is benefited. It is equally clear that, unless the convulsions are controlled by chloroform, chloral, morphia, or by the induction of labor, the termination of the case is likely to be fatal.

It is possible, by resorting to early treatment during pregnancy, to avert the dangers of eclampsia; but a time comes in the treatment of certain cases where the choice must be made between those measures which will act, if time is given for their effect, and those which will act at once. These are the cases in which the convulsions are threatening life. The question is, in such cases: What are the means at our disposal which are most effective in controlling the convulsions? In the second case which I have reported, each injection of morphia was followed by a cessation of delirium and was effective in averting the convulsion. It is doubtful whether chloral would have been so rapid in its effects, for the advocates of the treatment by chloral recommend the administration of chloroform to quiet the patient until the chloral acts.

Morphia is serviceable, not only on account of the promptness of its action, but because it favors rather than retards the process of elimination in one direction, namely, by diaphoresis. The danger from its effects upon the kidneys has been overrated. Upon looking closely into the subject we find that morphia decreases to a slight extent only the excretion of urea. Wood, Bruton, Loomis,¹ in discussing the treatment of uræmia, allude to morphia "as an agent that not only has the power to control muscular spasm, but at the same time, by its action, tends to reopen the avenues of elimination, either by counteracting the effects of the uræmic poison on the nerve-centres, and thus facilitating the action of diuretics and diapho-

¹ New York Medical Record, 1873.

retics, or itself acting directly as an eliminator." He cites a number of cases of uræmic poisoning, one of them a case of ante-partum eclampsia, in which morphia was used successfully. The description of two of these cases will serve to show the action of morphia. The first case was that of a middle-aged man, suffering from chronic nephritis, in the course of which he was threatened suddenly with uræmic symptoms. These failed to yield to purgation and baths, and recourse was had to hypodermic injections of morphia. As a result, the patient fell into a quiet sleep, during which diaphoresis was established. Twenty to thirty drops of Magendie's solution were given once a day for a number of weeks, together with one half-ounce of infusion of digitalis twice daily. The second case was one in which the convulsions of acute uræmic intoxication were arrested by morphia. The treatment was followed by profuse diaphoresis. Four hours after this the catheter was used, and five ounces of highly albuminous urine, containing blood and granular casts, were drawn. Loomis adds in conclusion: "It would appear that if a large hypodermic injection of morphia be administered at the onset of uræmic eclampsia, and repeated whenever the premonitions of a convulsion are present, we offer these distressing cases the best chance of recovery. The almost uniform effect of morphia so administered is, First, to arrest muscular spasms, by counteracting the effect of the uræmic poison on the nerve-centres; Second, to establish profuse diaphoresis; Third, to facilitate the action of cathartics and diuretics, especially the diuretic action of digitalis."

If we can be thus assured of the eliminative action of morphia, we have in its use a form of treatment presenting the advantage of both controlling the convulsions and aiding the excretion of the toxic element in the blood. I believe, however, that this is claiming too much for it, and that if we accept this we shall be tempted to use morphia in cases where other forms of treatment are demanded; for instance, in cases where venesection, chloral in its milder and slower effect and the induction of labor are indicated. This assertion, however, does not vitiate the claim of morphia to the first place among those drugs which are used for prompt sedative action.

The results of carefully collected and carefully noted cases, at the hands of various observers, will alone solve the question of treatment. No practitioner can rely upon one drug or upon one method of treatment; we must have at our command all the resources in treatment, and must learn, from experience, which from among these to select. If this experience can be broadened by the study of the cases in other hands, the number of our resources is increased. Within a year two important discussions upon the subject of eclampsia have appeared in print; one in *THE ANNALS OF GYNÆCOLOGY AND PÆDIATRY*, April, 1891, entitled "Disease and Functional Insufficiency of the Kidneys in Child-bearing Women, by B. C. Hirst;" the other "A Discussion on Puerperal Eclampsia, in the Section of Obstetric Medicine and Gynæcology, at the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891." It will be of interest to examine critically the remarks on treatment contained

in both of these papers. In the first Dr. Hirst presents briefly the report of eight cases, two of which terminated fatally; the treatment in each case was as follows:

Case I.—Chloral by the bowel, croton oil, chloroform as soon as premonitory signs of the attack appeared, and a hot wet pack.

Case II.—The treatment was the same as in Case I, with the addition of moderate bleeding.

Case III.—Bromide of potash, gr. cxx; chloral, gr. lxxx; morphia, gr. $\frac{1}{4}$, hypodermically; croton oil, gtt. i, and elaterium, gr. $\frac{1}{10}$. Hot wet pack for more than two hours.

Case IV.—Chloral and bromide of potassium, croton oil, chloroform, hot wet pack and venesection to a moderate degree.

Case V.—Treatment not mentioned.

Case VI.—Chloral, chloroform and hot pack.

Case VII.—Chloral, anæsthesia, hot pack and bleeding to the extent of twenty-four ounces.

Case VIII.—A dessertspoonful of concentrated salts solution, every fifteen minutes, for sixteen hours; sixteen ounces in all.

In the second paper the treatment, in order of preference, of those who took part in the discussion, was as follows:

Galabin.—Venesection, to relieve venous congestion of the lungs and to arrest the convulsions.

Byers.—States that next to chloral, morphia, given subcutaneously, seems most useful in controlling convulsions.

Donovan.—In cases of threatened eclampsia, with marked albuminuria, small doses of chloral, saline, purgatives.

Edis.—Chloroform, followed by either venesection or the administration of either chloral or morphia.

Swayne.—Venesection, followed by chloroform and chloral.

Auvard.—Eliminative treatment, anæsthesia, venesection.

Lawton.—Nitroglycerine, morphia.

Lawrence.—Chloral, hypodermic injections of veratrum viride.

Heywood-Smith and Harvey.—Blood-letting.

Cameron.—Alludes to the effect of morphia in dilatation of the cervix, thereby hastening the delivery.

The majority of those who took part in this discussion advocated the prophylactic treatment by the induction of labor in threatening cases. This coincides with the views expressed by Hirst¹ and Fry² in this country.

From a review of these discussions we learn that the choice of treatment depends upon the indications. The advocate of any single form of treatment finds himself at a loss in certain cases, and there are few who can say: "If I were compelled to employ but one remedy, it would be this or that." Morphia cannot be relied upon solely; there are conditions which interdict its use. Tyson states:³

"Notwithstanding the enormous number of favorable cases which have been reported from the hypodermic use of morphia, I would still be afraid to recommend it in these cases. The reason the morphia treatment of eclampsia is not attended by fatal termination, I think, is tolerably

¹ ANNALS OF GYNÆCOLOGY AND PEDIATRY, April, 1891.

² American Medical Association, Washington, 1891.

³ ANNALS OF GYNÆCOLOGY AND PEDIATRY, April, 1881.

plain. The vast majority of cases of Bright's disease, in connection with pregnancy, are cases of parenchymatous nephritis or tubal nephritis. These cases bear morphia tolerably well. On the other hand, it is well-known that cases of interstitial nephritis do not bear the use of opiates." The risk here, however, is not so great as appears at first sight, for interstitial nephritis is not commonly associated with eclampsia. Galabin asserts that "Recent acute nephritis is commoner than the existence of a contracted granular, or even a large white kidney." Excluding the chronic forms of Bright's disease, the objection to the use of morphia, on account of kidney affection, is unfounded, according to Fancourt Barnes,¹ who states that in the majority of cases the convulsions are not due to nephritis, and asks: "If there be any analogous example of acute inflammation of an organ passing away in a few hours or even minutes." Wood, on the other hand, writes as follows: "Whenever the kidneys are seriously diseased the physician should be exceedingly careful in the administration of opiates, because the chief channel through which they are eliminated is choked up."

It appears that we have to deal with views which are diametrically opposed. In contrast to the opinion of Wood, we have again the teaching of Veit, who impressed his listeners with the idea that they held in their hands the means of rescuing every woman in eclampsia, namely morphia, and the responsibility of a fatal case rested with them should they fail to use this means.

In conclusion, let us study for a moment the question of treatment from the standpoint of statistics. The treatment by morphia presents the lowest mortality, 3.3 per cent. (Veit). If we look into this more closely, however, we find that Veit obtains his statistics from over sixty cases, without giving the exact figures. The highest mortality, according to Hirst, is found in cases treated in this country, ranging at about 40 per cent. He presents a table, based upon the records of nine maternity hospitals, showing a mortality of 38.4 per cent. in seventy-eight cases. This is fallacious in one respect, namely, in that the cases which are treated in such institutions are frequently emergency cases, where the treatment is instituted too late. During the past year, at the Philadelphia Lying-in Charity, two cases of eclampsia were treated; both of these were admitted to the hospital in a condition of extreme danger, and after the greatest neglect. One case died, which shows at once a mortality of 50 per cent. In addition to this, the want of care in recording cases in this country—even in the most exact institutions—has much to do with the indifferent results. Galabin¹ states that "In the Guy's Charity, during venesection days, the mortality in fifty cases of puerperal eclampsia was 30 per cent.; since venesection had been discontinued, the mortality in thirty-four cases had been only 20.5 per cent" ("Year Book of Treatment," 1891). These statistics are also defective. It is easy to imagine that in the thirty-four cases, where the mortality was reduced to 20.5 per cent., the number of cases suitable for bleed-

¹ British Medical Journal, II, April, 1891.

¹ British Medical Journal, September, 1891.

ing may have been small. If the writer had selected fifty cases in which venesection was practiced, and thirty-four cases where it was not, the indications for treatment being, generally speaking, the same in both sets of cases, his figures would have had more weight. If, again, by further observation, he had completed his second set of cases to equal the first, by adding the record of the next sixteen cases treated in Guy's Charity—venesection being withheld—it is highly probable that some cases suitable for this treatment would be encountered, and the mortality be greatly increased.

Winckel speaks of the possibility of reducing the mortality to from 7 to 10 per cent. by the treatment now in vogue in Germany, whereas Löhlein¹ "searching the records of various hospitals has collected 325 cases of puerperal eclampsia out of 52,328 labors.

Out of these 325 cases sixty-three died from convulsions, and fourteen from other causes. The mortality was thus 19.38 per cent." ("Year Book of Treatment," 1891).

The points which I desire to make in favor of the use of morphia, based upon the history of the cases which I have presented, upon the testimony of those who advocate its use, and upon the criticism of the statistics just under consideration, are the following:

First, the efficiency of morphia in those cases where the life of the patient is threatened by the severity and rapid recurrence of the convulsions.

Second, the absence of deleterious effects upon the process of elimination, especially in those cases where the kidneys are acutely affected incidentally to the eclamptic state.

Foreign Bodies in the Bladder.

BY HUNTER MCGUIRE, M.D.,
RICHMOND, VA.

THE accompanying figures (shown in Plate II) represent a number of foreign bodies removed from the female bladder. The first (Fig. 1) is a piece of male catheter. The history of the case is this: A woman had retention of urine in the country, and was carried five miles in a wagon to a country doctor to be relieved. The doctor had no female catheter,

and attempted to relieve her with this segment of a male catheter. It slipped into the bladder. Various attempts at removal were made by the doctor. The marks can be seen which were made by the forceps, while he was fishing for it.

I made a section through the vesico-vaginal septum, removed the piece of catheter and closed the opening as in vesico-vaginal fistula.

¹ Central, f. Gynäkologie, June, 1891.

There is a curious suction power in the female bladder, under certain circumstances, about which nothing, so far as I know, has been written. When the organ is nearly emptied a catheter, without some protection, is easily drawn in.

The large stone (Fig. 2) I send was taken from a girl nineteen years old. She had some irritation, she said, about the urethra, and was scratching herself with a hairpin, when it slipped into her bladder. A year afterwards I removed this large stone in the same way that I removed the piece of catheter. That is by far the simplest and safest plan to remove any foreign body from the female bladder. I don't think this girl—or, indeed, any of the rest of them—used the hairpin for the purpose of masturbation. I tried to get out of all of them some information on this point, but they could give no more explanation than a child could why it put a bean in its ear, or a grain of corn up its nose.

The hairpin (Fig. 4) was taken from the bladder of a girl about twenty years of age, after it had been there forty-eight hours, having been removed by the same operation. The one shown in Fig. 3 I took from a negro woman, age about twenty-five. The stone was very friable, and I lost half of it in getting it away. I removed a fourth hairpin from a young girl who had introduced it four or five days before I saw her. An attempt at its removal had been made by a country physician, who fished for it through the urethra. When I introduced my finger through the hole that I made in the vesico-vaginal septum I found that one prong of the hairpin had perforated the walls of the bladder, and I had to use some

force to pull that prong back into the bladder, and then out through the opening that I had made. This girl got up in the night during the temporary absence of her nurse, took the hairpin, which was thickly incrustated with phosphates, and threw it in the fire. She got well without bad symptoms. I am sorry I lost this specimen.

I send you also a stone (Fig. 5) removed from the bladder of a man, age about 40, in whose bladder the doctor had left a small piece of an English gum catheter. I cut this man for stone instead of crushing it, because I knew from his history that the catheter formed the nucleus of his stone.

I have had three other cases of stone formed around foreign bodies. These three specimens are now in the Army Medical Museum at Washington. One of them has as its nucleus a piece of bone. The nuclei of the other two are bullets. Dr. Otis, of the Surgeon-General's office, collected thirty-two instances of the removal of projectiles, or of accretions formed by projectiles, in the human bladder. Two of these cases were mine. Since then I have had a third, making up to that time, November 18, 1875, only thirty-three recorded instances of the extraction of missiles, or of calculi formed around missiles or other foreign matters. It is right curious that three of these cases were mine. Two followed a great war.

If I can add any more to this that will be of interest to you, I will be glad to do it.

DR. J. PRICE.

(Fig. 6.) Recto and vesico-vaginal fistula in same patient, due to a neglected pessary.

Mrs. B.—Pessary introduced some

four years ago for prolapsus. Two years after its introduction urine and fæces came through the vagina.

The fistulæ were large and greatly thickened. Removal of pessary and local treatment, followed by closure of both fistulæ at same sitting. Cured.

This is the fourth fistula, due to a pessary, in my experience. I have also seen two deaths follow the abuse of a pessary.

DEAR DR. PRICE :—The following includes the list, as far as I have gone, with a large number of translations yet to do. The results are surprising. I have confined myself entirely to the index catalogue.

Twenty-three hairpin cases are reported, forming the nucleus of a stone. Removed by crushing and dilating the urethra. Seven cases were removed by lithotomy; one case by the *high* operation (suprapubic).

Five pessaries were found in the bladder; one removed by force. Lithotomy in two cases. Dilatation and crushing of remainder.

Seven female catheters, or portions of them, were removed by incision, dilatation and extraction.

One gum-elastic catheter, No. 4 (male) bougie, removed by urethrotomy. Recovery.

Calculus, after a vesico-vaginal fistula operation, formed around a *bit* of silver wire. (Jones).

Wooden reel, forced into vagina by an insane woman, which ulcerated in the bladder; removed in pieces. (Kebbell).

A piercer (instrument for making eyelets) found in bladder. (Morton).

Calculus about a hairpin in a child. Lithotomy. *Cure. (Parson).

Cedar pencil (4 inches long) removed from bladder by dilatation and extraction. (Phillips).

Handle of a crochet needle removed by dilatation. (Prichard).

Hairpin removed by a high operation. (Thompson).

Transactions Pathological Society, London.

JOSEPH LEIDY.

The Treatment of Abortion, and Some of the Complications Incident Thereto.

BY WALTER A. CROW, B.S., M.D.,
ATLANTA, GA.

MR. PRESIDENT AND GENTLEMEN : I have selected this as my subject today for several reasons. In the first place, it is a subject of special interest to every general practitioner, from the frequency with which he is called upon to treat these perverted conditions of nature's honest efforts; and,

secondly, it is a condition the results of which give rise to the necessity of special treatment in the hands of the gynæcologist and abdominal surgeon, more than any other single cause in the diseases of the female human subject.

It is not my intention in this paper

to consider the many causes of abortion, but shall confine myself to the treatment of the premature emptying of the pregnant uterus prior to the sixth or seventh month of gestation. This also includes a portion of the time when this accident is known as miscarriage.

Now, if we will briefly consider certain physiological conditions that we find in these cases, it may serve to enlighten our minds somewhat as to the causative relation in the consideration of sequelæ.

The period immediately following the fecundation of the ovum and its attachment to the decidua is marked by a decided stimulation in the growth of all the parts, extending to and including the tubes and ovaries in some degree.

This is the "*miraculum naturæ*," as it was called by Swammurdam in 1672. "This increase in the size of the uterus is largely due to changes in the muscular tissues. The muscular fibres are increased from five to seven times in length, and from two to five times their original breadth (Kölliker); also, new non-striated fibres are developed from embryonic muscle-cells, stored up especially in the inner layer of the uterine wall."¹ Together with this change in the walls of the uterus, there is also as decided a change in the lining membrane of the interior of this organ. It matters not materially in this case whether we adhere to the old views of the thickening and change of the mucous membrane, or to the more recent and plausible views of Johnstone and others, who claim that the endometrium belongs to the so called "adenoid tissue,"

traversed with lymphatic spaces, and "during gestation this uterine lymphatic system undergoes hypertrophic and hyperplastic change in all form-elements, analogous in kind and degree to those of the blood-vessels."¹

Now from this condition of affairs we find, in cases of an accident (abortion), which directly opposes the normal efforts of nature, a large area of exposed surface, the endometrium, which is altogether favorable to septic infection from the purulent material with which it is constantly bathed, due to the breaking down and liquifying of the decidua, or, as is often the case, from portions of retained membrane or bits of placental tissue.

The uterus has taken on size and weight for the completion of the wonderful task for which it was intended. It has opened the highways of lymphatic canals and blood-vessels, for the bringing in and storing of material, but suddenly, without warning, so far as preparation, as we see in full term pregnancy, the plans are entirely changed; from a condition of building up we have a task of repair—an over-stock of material without a place to utilize it—and in this, as in practical business life, a sacrifice has to be made and somebody is the loser. In our case we generally see it in the giving way of the general health of our patient, or the development of some specific trouble which bears a causative relation thereto.

My observation in these cases has led me to believe that in the treatment of all cases of abortion, and especially of the earlier months, we have to combat a tendency to septic infection; the mildest but most

¹ American System of Obstetrics.

¹ American System of Obstetrics.

common form I consider is the arrest of the retrograde involution of the uterus, a condition generally known as *subinvolution*; from this other and more pronounced types, such as pyosalpinx, abscess of the ovaries, pelvic or general peritonitis, etc., are met with. The marked tendency to recurrent attacks of an inflammatory character, is particularly noticeable in all of these cases, the most common form is metritis and chronic endometritis, but it may extend so as to involve the appendages, also the adjacent tissue and viscera. Malposition of the uterus, especially the backward displacement, retroversion and flexion, are frequent results; this is no doubt due to the increase of weight and relaxed condition of the ligaments.

It is my plan, when called to these cases of threatened abortion, to first ascertain, whether it is possible, to relieve the condition, so as to allow normal gestation to continue without injury to my patient. If this cannot be done, my next object is to try and prepare the patient the best I can for the trying ordeal that she is about to pass through. The best indication, therefore, is to remove, as far as possible, all sources of infection. When I can, I have my patient take a warm sitz bath, with a liberal use of soap. If this cannot be done, I then do the next best thing, have the parts well wiped off with warm water and soap. I then douche the vagina with a 1 to 2-5000 bichloride solution, open the bowels, either with C. C. pills, salines or an enema of warm soap-suds.

The condition of the parts and stage of labor, of course, determines my next movements. If the os is not patulous enough to admit my

index finger, and there is no immediate danger of my patient's life from threatened hæmorrhage, then I prefer rapid dilatation, plugging the os with strips of iodoform gauze, also packing the upper portion of the vagina with the same material, then wait from twelve to twenty-four hours, keeping the patient perfectly quiet in bed. If the pains are severe, I usually give an opiate with black-haw, and sometimes combine ergot (fld. ext.) in from two to five drop doses, to be repeated every two to four hours, *pro re nata*. If there is a febrile tendency, and I want time for more positive results of nature's efforts, then a combination of quinine, Dover's powder and ergotine has given satisfaction in many cases. The ergot, you will notice, is given in small doses, as it is not intended so much to excite severe uterine contractions as to act as a mild stimulant and thereby aid the uterus in expelling its contents. At the end of twelve to twenty-four hours from plugging the cervix I usually find the foetus, placenta and membranes either in the vagina or impacted in the cervix, which then becomes an easy matter to detach; but in case I do not find this condition that I have supposed, I then give chloroform, thoroughly dilate and empty the womb of its contents, using a dull curette freely, so as to remove as near all of the decidua membrane as possible. I then wash out with a 1-5000 bichloride solution and pack the uterus with iodoform gauze. This I remove in four or five days if it is not already expelled. I then wash out the vagina again with a 1-5000 bichloride solution, keep my patient in bed, using the same routine treatment that is common in

full delivery. But it is just at this stage of the case that I wish to pay more than the ordinary attention, for here is the turning point, and we often deceive ourselves as to the exact state of affairs. Instead of the uterus being entirely cleared, as we suppose it to be, a bit of membrane or a portion of the placental tissue is retained, and for that reason I deem it justifiable and safe in all cases to thoroughly examine the interior of the uterus with a small wire curette. In this way, with a little practice, you can get a very accurate idea of the interior of the womb, and will thereby be enabled to remove any offending substance which would otherwise be likely to give rise to the train of evil results that I shall try to bring out in this paper, and will illustrate by a recital of the following cases:

CASE I.—Mrs. W., aged 24, multipara, was four months pregnant and miscarried last August. She was a strong, robust woman, and seemed to entirely throw off the foetal contents at the end of the second day, and was assured by her attendant that she was all right and would be up at the end of two weeks. This period was passed without anything unusual except a rather free flow. She did not get strong as she had hoped to, but found at the end of five or six weeks that this flow of whitish character continued, though not so freely. At her second month her menses returned, which were very free and lasted longer than usual. She gradually grew anæmic and had a tendency to night-sweats. For this she was given a tonic and told that she had taken cold but would be all right soon. She missed menstruating in October and November following and supposed

she was again pregnant, and this would account for the pain and weak feeling in her back and pelvic region. In December (about the 10th) she commenced to flood and sent for me to see her. I found her having pains, returning regularly, and losing blood of a bright color quite freely. The os was patulous, which enabled me, after using a vaginal douche, to make a thorough examination of the size and interior of the uterus. I found a boggy mass, which, when removed with a curette, looked like a mass of old placental tissue, about the size of an olive. The uterus was fully twice its normal size, subinvolved and prolapsed to about the second degree. I thoroughly curetted the cavity with a sharp curette, washed out and packed the interior with strips of iodoform gauze. I found a thickening of the tube on the left side, with the ovary prolapsed and slightly enlarged. The patient was kept in bed and bowels opened freely with salines. The gauze came away of itself on the morning of the fourth day. A local treatment for the next month with iodine applications, glycerine cotton tampons and keeping her bowels open with a saline and a chalybeate mixture, with *nux vomica*, improved her general condition very much.

CASE II.—Mrs. H., age 30, multipara, miscarried last September, between three and four months pregnant. The uterus was supposed to have been thoroughly emptied, still she had a slow getting up, and continued to have a purulent vaginal discharge. She gradually grew weak, had slight fevers, poor appetite, headaches and very much depressed in spirits. She was brought from an adjoining county to see me about the

middle of November. I found the uterus subinvolved and retroflexed, also a mass on the right side, about the size of an English walnut. I advised a laparotomy, but this being objected to, the next best thing for me to do was to favor drainage. I dilated and curetted, removing about a teaspoonful of granular tissue. I noticed quite a free discharge of purulent material, when I dilated the cervical canal. I washed out the uterine cavity with a 1-5000 bichloride solution, being careful to have a free return flow, then inserted strips of iodoform gauze to favor drainage; this was removed and replaced on the third day, also washed out the cavity. The tumor was so much smaller on the ninth day that I left the gauze out. For the next three weeks a local treatment of hot salt-water vaginal douches, iodine applications and boro-glycerine tampons was kept up. I gave a mixture of iron, chlorate of potash and nux; also kept the bowels open with salines. Her condition was so improved by the end of this time that she was able to return home. I have since learned that she is again pregnant, a condition that I regret very much in these cases.

CASE III.—Mrs. H., aged 32, mother of five children. Had always had very good health up to the time of her third pregnancy, when she had an abortion at the third month. This was six years ago. She had a slow getting up, and has since suffered more or less from uterine troubles. She came under my care eighteen months ago, on account of a severe menorrhagia. On examination I found a condition of chronic endometritis. The uterus was enlarged, prolapsed and retroflexed, also thickening of the appendages on the left

side, which were very sensitive to the touch. This patient had lost blood until she was very anæmic, so much so that an attack of *la grippe* made her condition a very serious one. The local treatment was curetting, washing out and packing the interior of the uterus with strips of iodoform gauze, as used by Dr. Polk, of New York, also tampons of boro-glyceride with alum; this with a general treatment of tonics, oxygen gas and close nursing, enabled her to get out again, so as to assume a portion of her household duties at the end of six months. She is now in very good health, but still has a misplaced uterus, slightly enlarged.

The points I wish to impress in this paper are as follows: *First*, the marked tendency to infection in all cases of abortion; *second*, the urgent necessity of removing, as far as possible, all sources of infection; this includes clean hands, clean instruments, cleanliness of person and bedding; *third*, the importance of thoroughly satisfying yourself in all cases of the complete removal of all the foetal membranes and placental tissue; *fourth*, keep your patient under observation for at least two months, with the most favorable surroundings for complete and perfect involution of the enlarged uterus, building up the general health and keeping the bowels open if necessary with salines; *fifth*, be urgent in your advice in avoiding the possibility of becoming pregnant for at least six months, as sexual connections produce more or less irritation and congestion of the parts and thereby retard, if not in a measure stop, the condition we most desire in these cases—a normal restoration of the parts.

Pyelitis and Pyelo-nephritis as a Probable Cause of Puerperal Eclampsia after Delivery.¹

BY W. B. HARDMAN, M.D.,
HARMONY GROVE, GA.

I HAVE been stimulated to present this paper because of the number of cases of puerperal eclampsia after delivery which have recently come under my observation. It is pretty generally conceded that eclampsia after delivery is comparatively rare; but if you should take my experience as a standard, it is not a rare occurrence. But in my opinion those cases occurring after delivery do not, as a rule, have the same pathology entirely as those occurring before or during labor.

The first case to which I call your attention is Mrs. C., aged about 35. I was not present at her confinement, nor had I seen her prior to that time. From reports she had been in bad health some three or four years previous to this time, but her trouble was referred principally to her stomach. During the last four months of pregnancy she complained repeatedly of lumbar pains, and of pains and tenderness in the region of the right ovary. A good deal of the time she was confined to her bed and had some fever, but still she did not consult a physician. She was delivered on a Sunday evening of twins by a midwife, and from accounts had no serious trouble. She seemed to be doing well enough until the following Wednesday morning before day, when she attracted the

attention of her husband, and he found her in the midst of a convulsion. When I arrived she had had three and was attacked with the fourth as I sat down by her bedside. This lasted several minutes. During the next twenty-four hours she had three more, very severe ones in spite of treatment. In the intervals between the convulsions she was at times comatose, and at others very restless, throwing herself about and talking in a loud, incoherent way. She repeatedly called her husband in loud and comparatively distinct tones. This was an interesting fact, because, for some reason or other, she had not for three years spoken above a whisper. She did not regain consciousness until the following Sunday afternoon, when she again spoke in whispers. Her temperature was high most of the time, ranging from 102° to 105°. Her urine was repeatedly examined, contained no casts, but at all times an abundance of pus; specific gravity never low. The pus continued abundant for several weeks and gradually diminished, but was still perceptible three months after delivery when I made my last examination.

My second case was a primipara, about 18 years of age, rather small and of slender build. She looked anæmic, but said her pregnancy gave her very little annoyance. There was absolutely no œdema of the feet and legs or any sign of plethora about her.

¹ Read before the Georgia State Medical Association, April 21, 1892.

Her labor was severe, but not very long. I noticed during her last pains that her eyes danced slightly and had that peculiar look about them which we note just before an eclamptic seizure. I remained about an hour after delivery, and when I left her she told me she felt "splendidly." She was laughing and talking during the hour I remained. I was summoned about two hours after I reached home, and when I got to her bedside she had had two convulsions. She had three more, in about six hours time, as severe as I ever witnessed. These last three attacks were brought on by some sudden noise; one by the barking of a dog, another by the crying of an infant, and the third by the falling of a chair. She became perfectly conscious the next morning, said she rested well, made several inquiries as to why I was still there and of other things about her person and the room that she did not quite understand, but knew absolutely nothing of what had happened until some one informed her about two months afterwards. Her urine contained no albumen and no pus.

My third case had two convulsions about four hours after delivery. She had poor health during her pregnancy, but I did not see her to examine her. Her urine contained no casts, but a good deal of pus; specific gravity high.

My fourth and fifth cases were seen by my brother. Both of these had no sign or symptoms of convulsions during delivery. In the first of these the eclamptic seizures appeared about twelve hours after delivery. Her urine contained albumen, pus and casts; specific gravity high. The pus disappeared first during her recovery, and the albumen continued for several

months. She is now a victim of chronic Bright's disease.

The fifth case was seen only in consultation by him. The attacks came on five days after confinement, and the patient's urine was found to contain an abundance of pus.

Our four cases are still living, but we have not examined their urine recently, and do not know the exact conditions of the kidneys at present.

It would seem, from the foregoing cases, that eclampsia after delivery is not very rare, if it occurs as frequently in other physicians' experience as in my own. It also occurs to me that the exact ætiology and pathology of puerperal eclampsia is still a matter of doubt. We might ask ourselves the question, Why should a woman have eclampsia after delivery anyway? If it is due entirely to the peculiar excitable condition of the nervous system during pregnancy alone, why do they not always occur, during labor, when the nervous system is most severely taxed? Or, we might ask, What causes this peculiar excitable condition of the nervous system during pregnancy? Again we suggest, Why is it that a woman, who is lying quietly on some couch, is suddenly attacked with eclampsia before labor sets in? There are many questions we might ask which would prove very troublesome to the advocates of any one theory of the pathology and ætiology of this disease. If we assume that the theory of Traube and Rosenstein is correct—viz., that eclampsia is due to the anæmic and hydræmic condition of the blood, which is present, perhaps, to a greater or less extent, in all pregnant women—we might ask, Why do we not meet with such convulsions in ordinary anæmia or per-

nicious anæmia? After all, in my opinion, we must look to the kidneys for the cause, in the majority of cases of puerperal eclampsia, though not to them entirely. There may be a combination of circumstances, such as the excitability of the nervous system, weakness, anæmia, etc., which only help on toward the tendency of the kidneys. While it may not be due entirely to an acute Bright's disease, as Frerichs affirms; yet if we examine closely, in the majority of cases we will find some renal insufficiency. There are many good arguments offered against the views of Frerichs. For instance, many patients with acute Bright's disease during pregnancy, have no symptoms whatever of eclampsia. Neither does every case of acute or chronic Bright's disease, in ordinary practice, terminate in uræmic convulsions by any means, because every kidney with Bright's disease is not necessarily insufficient for its work. This, no doubt, is quite frequently the case in child-bearing women also. Some one may ask, What of those cases which occur during or after delivery, when there is no indication of kidney trouble, as far as one can discern? No doubt, a good many such cases do occur. My second case is a good illustration. But we must not forget that we may have Bright's disease without finding albumen in the urine. Still it is not improbable that we may have some cases of puerperal eclampsia which are due entirely to an overstrain on the nervous system, apart from any toxic material in the blood; as, for instance, the weak, nervous system of a child is unable to bear the attack of many acute diseases, and is thrown into convulsions. So a weak woman, at

this critical period, when suffering much from exhaustion, may be thrown into violent convulsions by some external excitement, as it were, or by reflex action, we say.

But coming back to our first assertion regarding renal insufficiency. In the pregnant woman there are many things operating to bring this about. The excessive work which is put upon the kidneys during pregnancy, the crowding of the viscera in the abdominal cavity, and the excessive determination of blood to the region of the kidneys, causing congestion, and lastly, the pressure of the gravid uterus on the ureters, all help to put a strain on these organs and thus may cause enough disturbance to set up disease which may render them insufficient. The last cause we consider the most fertile. This is shown because we seldom note any disturbance until the latter months of pregnancy, and also disturbance of the kidneys is more commonly present in twin pregnancies. The pressure on the ureters prevents a free outlet of the urine, and it is blocked up, so to speak, in the pelvis of the kidneys, and there may undergo decomposition and cause enough irritation to set up an inflammation. This may soon become a pyelitis or a pyelo-nephritis, or this no doubt helps to cause simple nephritis in some instances. This pyelitis and pyelo-nephritis continues until it intrudes upon the pyramids and uriniferous tubules and destroys them to a greater or less extent, and thus limits the secreting power of these organs. Now, what better source of blood contamination could we ask? We have kidneys incapable of doing their whole duty, and thus causing a reten-

tion of matter that should be excreted, and also an organ blocked up with pus and decomposing urine, which, with the pressure it causes, only makes matters worse. There is no doubt also that there is a reabsorption of toxic matters from this pus and decomposed urine, either urea, carbonate of ammonia or some other deleterious substance.

Now, it will be observed from the foregoing cases of eclampsia, after delivery, that four out of five cases contained pus in their urine. Just why a case of pyelitis or pyelo-nephritis should bring on eclampsia, after delivery, and not before or during it, I am unable to say. These cases may be simply a matter of coincidence. It may be probable that the pyelitis has caused such destruction in the kidneys that after delivery, when the stage of reconstruction in the woman, so to speak, takes place, the organ proves insufficient for its work, convulsions may come on instead of pyæmic chills. In our opinion the examination of the urine in pregnant women is too often neglected, and even when we find pus in the urine we pay too little heed to it. In almost all the cases I have seen the patients rarely get through without some serious trouble. My brother had one case which he judged to be a syphilitic, and treated her with iodide of potash, and she got through without much inconvenience. But, as a rule, we give some tonic remedies, treat their symptoms and wait, and the result is the patient dies or goes on to full term, and is in such

a condition that she is ill able to bear the ordeal.

A case in point came under the observation of my brother some years ago, when I was a student. The patient complained of considerable pain in the region of the left ovary, but very little pain in the lumbar region. Her urine contained pus in abundance. He obtained the consultation of some of the best talent in the State, and the hardness in the region of the left ovary was decided to be a tumor, and the pus due to a suppurative cystitis. The case continued until she aborted, and died in a few hours. The autopsy revealed that this was a case of pyelitis, continuing and producing suppurative nephritis and circumscribed peritonitis, with adhesions to the colon. If this had been recognized sooner, and premature labor induced before the patient became so exhausted, her life might have been saved. Then, to sum up, we conclude:

(1) That eclampsia does frequently occur after delivery.

(2) Judging from the cases presented, it occurs for the most part in patients with pyelitis.

(3) When we find pus in the urine of pregnant women, and can exclude specific disease of the kidneys, any bladder or urethral disease likely to cause it, we may thus feel pretty certain that the pus comes from the kidney; and if it continues and begins to cause any general disturbance of the health, I believe it is our duty to induce abortion or premature labor, and thus save our patient a great risk.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of April 7, 1892.

THE PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

INTESTINAL LESIONS IN ABDOMINAL
AND PELVIC SURGERY, BY DR. JOSEPH
PRICE. (See page 454).

DISCUSSION.

DR. G. BETTON MASSEY:

Although I had not read the article of Dr. Mundé, quoted by Dr. Price, I suppose he was giving statistics, and should like to know what mortality he acknowledged as a result of vaginal opening. Dr. Price apparently complains of his explanation and apologies. It seems to me that it is a very useful thing for physicians to explain and apologize at times. As I take it, this opening of pelvic abscesses and accumulations from below is older than enucleation by the abdominal operation; it therefore has been more definitely tried and we have a greater series of observations. The question arises: What will be said about abdominal opening of abscess in the pelvis in the future, when a similar experience shall have been collected? This experience must take into consideration the after-effects of such operations. I, myself, have known of several cases where abscesses have been opened through the abdomen, and though death did not result from the operation, as it often does, certain results followed—either sinuses or pain. At my dispensary there are now five cases that have had either one or both ovaries and tubes removed, generally for pus, and all suffering pain. They are all in a pathological condition, which they say is worse than before the operation. This question is still under judgment, and I think that explanations and apologies may be required from either side. There is another thought that occurs to me in the matter, and that is in reference to the general detestation that surgeons have for adhesions. Why are these adhesions put there? I suppose one might say for the purpose of bothering surgeons. It seems to me that the teaching of these adhesions is in the direction of the lower opening

of these abscesses, in the direction of opening by the vagina or rectum, else nature would not protect the abdominal cavity by such elaborately arranged defenses. In my opinion the subject is yet under judgment.

DR. M. PRICE:

I think that Dr. Massey has probably misunderstood the matter. We all probably have had some apologies to make for some of the work in our earlier experience. The fact that nature throws out adhesions in her effort to protect the surrounding organs is no proof that adhesions are of benefit after the disease is removed. The question that comes to us is, How to prevent accidents, as far as possible? The complications that have taken place in nature's effort to save herself we must correct as far as possible, when we remove the disease, for which nature has been attempting to provide. As to drainage by the vagina I cannot see why we should make an opening through the walls of the vagina when we have absolutely perfect drainage through a glass tube in the incision in the abdominal wall. There is no reason and there can be no proof produced that there is any complication or any exaggeration of symptoms produced by drainage through the abdominal wound. I have never seen a fistulous opening that did not close. I have never seen a single complication produced by the drainage tube which is so much decried.

As to patients suffering worse after operation than before, I have no doubt of it. There are half a dozen deaths in this city, weekly, from abdominal work, done by men who never before opened the abdomen. There is no operation in surgery so desperate, no condition so murderous they will not assume to remove. They are so absolutely ignorant or oblivious of the rights of patients to life, that they go on, deliberately executing the patients on the table—not one, but I could allude to half a dozen, within the year. There is reason for their apologies. They should quit until they

know something about the subject. A man who undertakes to remove a large abscess or collection of pus in the pelvis, with probably ten years' history before it, without having served a well-spent apprenticeship, is, in my estimation, no better than a murderer.

In regard to adhesions and complications complained of by the patients themselves afterwards, why not? They are at death's door when the operation is done. Every organ in the pelvis and abdomen is more or less crippled by the condition. When a man amputates a limb, he does not get another full-length limb. When a man taps an abscess of the pleura he does not expect a perfect action of the lung. He does not expect to have the same condition of the pleura and lung as before the occurrence of the disease. We can expect to accomplish only possibilities. We cannot expect to cure the anatomical and physiological conditions which have followed a disease which has lasted for months or years. We can hope only to remove the disease in the most surgical way. We must put up with some inconveniences. We cannot expect absolute cures; but we can prevent patients from going about carrying our scars. We can leave them at least in a condition of bearable suffering, and not in one that is odious to themselves and those around them. It is our duty, in the first place, to know what we have to deal with. To investigate the subject and prepare ourselves as honest workers in this field, and then undertake to work only when we have had sufficient training to warrant our doing so. I admit that a man away off in the woods, with no one to help him or come to his assistance, is warranted in doing operations, even if the risk be great; but a man in our day and city has no right whatever to risk a life in doing a hysterectomy, when he has never seen the first single, solitary procedure to guide and direct his movements and enable him to get through in a decent and reasonable time, that will warrant the patient's living through the operation. This is done daily in this town, and a man to do that kind of work, without any preparation or any educated help by his side, without anything to warrant such a procedure, I say is criminal, and these are the ones who are to apologize. They are the ones who say that if "I had this or that;" "If I had not left my nœud at home, or brought a rubber catheter to answer the purpose, the

patient might have recovered." These are the apologies that have no business ever to be made.

DR. J. PRICE :

There are some few points to which I might allude. First, in regard to the question of education and the question of history. Careful reading of the most enlightened authors will answer this question most satisfactorily to all of us, and I think that Dr. Massey, if he will read carefully the most recent works, will have a very satisfactory explanation for his statement. For instance, in alluding to the history of this subject, he will find that in the later works these chapters have been rewritten. In the most recent Gynæcology, that of Mundé and Thomas, you will find two or three post-mortems recorded of cases seen in consultation by Dr. Thomas. I think that one is under the head of cellulitis, one under the head of pelvic peritonitis, and, I think, one in some other part of the book—cases that he said that years ago he considered cellulitis. They answer to all the subjective and objective features of pelvic cellulitis. They died without any attempt to cure them, except by the use of douches, etc. In one case he said that the symptoms were the common and ordinary symptoms of pelvic cellulitis, and on the right side he found an ovarian abscess, the appendix firmly fixed. This, in all his past writings and teachings (and we all know that he is one of the most justly celebrated writers) had been cellulitis. Now he writes a most beautifully illustrated chapter, every page with a picture of an ovarian abscess or pus tube. This holds good in regard to most authors and teachers at the present time. Some have been bold enough to brush away the whole thing under the appellation of myth; and it is unfortunate that we have not more of such teachers and writers in our midst. Surely they have realized that the new and better teaching is correct, and have the courage and professional conscience to accept the lessons.

DR. MASSEY :

My allusion was merely to the choice of operation, and not to the nature of the trouble.

DR. J. PRICE :

In regard to the choice of operation and the nature of the trouble, we all know what we find in the pelvis and how very common it

is to find it. We know as much about pelvic troubles as about any other trouble in medicine at the present time. In short, in my experience, I have been a general practitioner and a general surgeon for a long time. I did a great deal of general practice and general surgery and some special surgery, and I am satisfied that if I know anything at all in medicine it is a great deal about pelvic troubles, and I know a great deal more about that than about anything else in medicine.

As to the termination of these cases: We know perfectly well that five, ten or fifteen years ago these cases were treated by aspiration and incision, in the experience of good teachers and operators—men with much experience and rare good judgment. I have many times seen patients die, and some I have operated upon, that had been incised and drained ten or fifteen years before by good operators. They were practicing what they had been taught. These patients did die, and died in large numbers. Some of them still live, notwithstanding they were tapped ten or fifteen years ago, and some have sinuses and drainage tubes. Some are dying of phthisis and some of amyloid changes or multiple abscesses. These are very common. When a man says that he incised sixty-two cases and drains, and his colleague writes an able article and says that renal trouble is a very common sequel of pelvic inflammatory disease, it can be seen that if you will only study, not only the trouble itself, but also the history and able papers by able men, you will come to a satisfactory knowledge of this subject. I sent a patient home last week who had had aspiration, incision and drainage many times in the last ten years, until she was emaciated beyond locomotion. She was sent home cured. I have had carried to me in the last six months at least twenty patients that were going to die, and die they must, had not careful surgery saved them, but they all got well after a thorough and complete removal of the trouble. If the mortality was something large and alarming I should not talk so, but I feel that I have a right to talk plainly, and feel that it is my duty to speak plainly in regard to this subject. I see many patients who are ill and dying—some treated for typhoid fever and delirious—but I am perfectly willing to give them the one chance for their life, and some get well. I should like to give up this work which is hard and trying, and a perpetual

burden upon my shoulders—a work filled with untold anxieties. I would give it up if I could find something like what Dr. Massey speaks about, that would relieve these cases. I would either adopt it or turn these cases all over to him and take up some easier professional line.

Now, in regard to after symptoms: Dr. Massey has some grounds for his statements. This is very unfortunate. We all have a fashion of sending patients home too soon. A patient comes to us who has suffered for ten or twelve years, we operate and she makes a nice recovery. She, however is feeble and weak, and when she leaves the hospital may go away to her home in the country or the coal region, where she will not receive proper attention and care; but if these patients can go to the mountains or seashore for six months they will come back rosy. So much have I felt this, that some time ago I commenced negotiations for a farm where I could send my patients, particularly the poorer ones. I cannot feel that my work is complete until I have some resort to perfect the cure. As far as the surgery is concerned it is a cure. It is curious that in many of these cases, after operation, you receive all sorts of expressions of gratitude from patients and friends, and yet, with the least encouragement, some one evilly disposed can induce them to sue you or blackmail you. That is exceedingly common. It occurs unfortunately in the most poverty-stricken patients that you have to deal with. Keith's first case of hysterectomy is an illustration of this. The patient was a poverty-stricken woman, dying; he removed a huge fibroid; she gets well, but is an unsatisfactory patient—complaining about everything, and comes back six months later complaining about a potato.

A CASE OF CHRONIC METRITIS, WITH RETRO-FLEXION, TREATED BY ELECTRICITY, WITH REMARKS ON THE LIMITED VALUE OF PESSARIES IN THIS CONDITION. BY DR. MASSEY. (See page 462.)

THE USE OF MORPHIA IN ECLAMPSIA, WITH A REPORT OF TWO CASES. BY DR. WILSON. (See page 464.)

DISCUSSION.

DR. WILLIAM GOODELL:

I agree with the writer that every case of eclampsia must be treated on its own merits.

I believe in the efficacy of morphia, but I should not like to use it without preliminary bleeding. With this safeguard I have resorted to it repeatedly, and have found it of great value. I should not employ it without bleeding, on account of the difficulty of elimination in these cases. While morphia undoubtedly increases the perspiration and favors elimination through the skin, yet we often find excessive perspiration in cases of eclampsia, in which no medicine has been given. I remember a fatal case which Dr. Stewart and I saw together—a stout woman who was bathed in perspiration before any medicine was administered. Although I obtained much benefit from the combined use of venesection and morphia, yet I had an occasional fatal case. So when the chloral treatment came into vogue I took it up with a good deal of enthusiasm, but not by any means neglecting venesection. My results with chloral have been more satisfactory. As illustrating the happy effect of chloral, I may state that the late Dr. William H. Cruice, who had the largest obstetrical practice in Philadelphia, with the exception of one midwife in the northern part of the city, had a series of fatal eclamptic cases. He finally sent for me in a very bad case. The patient had had a number of convulsions and had become comatose. He had been treating the case with venesection and morphia, and I suggested chloral. We gave a drachm of chloral by the rectum, and it was repeated later. This patient recovered. He then took up the use of chloral enthusiastically, and not very long afterwards, perhaps about two years, he wrote me a letter, thanking me for calling his attention to its use, and stating that he had had eleven consecutive cases of eclampsia, all of which recovered under chloral. My rule is to administer one drachm of chloral by the bowel, and, as soon as the woman begins to come out from under its effects, to give a half drachm, repeating the latter as often as it may be deemed needful. As a prophylactic, chloral is without a rival. If the patient has albumen in the urine, as soon as labor begins I give chloral in ten grain doses, by the mouth, every hour or two hours, until the patient comes under its influence. Should at any time during the labor a sudden headache occur, I usually bleed and increase the dose of chloral.

The preliminary treatment which I adopted

at the Preston Retreat, when there was albumen in the urine, or the limbs were much swollen, or the patient complained of headache, was to keep the bowels open with compound jalap powders and give Basham's mixture. But we have to treat every case on its own merits. I could not give up venesection. I have saved life by it. I remember one desperate case to which I was called during the absence of the regular physician. An unskilled nurse and the husband were the only persons present. As soon as I bared the arm to open the vein, the husband ran out of the room, and, when the blood began to flow, the nurse dropped over in a faint, and I was left alone with the patient. She had the most violent convulsions, in which the blood spurted over me, the patient and the bed, so that when the physician arrived, he compared the appearance of the room to that of a butcher's shop. She never had another convulsion. In these very fat women, who are swollen from head to foot, I feel that blood-letting is the first thing to be done whatever may be needful afterwards. I have never ventured to use *veratrum viride* in the heroic doses which have been suggested. In the discussion on this subject in England, I do not see that anyone has ventured to use it in the doses recommended by its originator. To repeat: the remedies upon which I rely are venesection, morphia (hypodermically) and chloral (by the mouth or the rectum) according to the mental or receptive condition of the patient.

DR. BARTON COOKE HIRST:

There is one strong reason for the use of morphia in eclampsia, but several good reasons against its use. The one strong reason in favor of it is the fact that it controls the convulsion, and it is the convulsion that usually kills in eclampsia. The reasons against its use are, in the first place, that it diminishes elimination; in the second place, that no one can tell whether the convulsion is dependent upon interstitial nephritis or not; and in the third place, that there are a certain number of cases in which death occurs in coma, thirty-six or forty-eight hours after the convulsions have ceased entirely. As an example of what I mean by my second objection, I might describe a case that occurred in my practice about a year ago. The woman suddenly developed convulsions during labor.

The day before, an examination of the urine showed it to be normal, so far as the presence of albumen was concerned. She had apoplexy after the second convulsion and died. At the post-mortem examination we found both kidneys cirrhotic to a marked degree, and on inquiry it was learned that the interstitial nephritis had probably existed for at least two years. If morphia had been given to her it would have probably robbed the girl of any chance she might have had.

In the last twenty months I have seen ten cases, and have depended mainly upon chloral in one-drachm doses. Less than this is useless. Of the ten I have lost two. With chloral, I have used chloroform, diaphoresis and catharsis. Once in a while I have used morphia in addition. In some of these cases I have administered a concentrated solution of epsom salts, in rather small doses, repeated frequently, until there was profuse catharsis. This treatment is particularly valuable in case the patient remains comatose after the convulsions have ceased.

DR. GEORGE M. BOYD:

In view of the variety of opinions as to the ætiology of eclampsia, it would seem that morphia was indicated in certain cases. At all events, it would seem that it was indicated in those cases which we are able to watch and study prior to the development of the eclampsia, in those cases especially, in which urinary analysis has been made and albumen not recognized. In using morphia hypodermatically we have a prompt antispasmodic, and the narcotic effect of morphia is of such lasting duration that I think in convulsive disorders it is more reliable than chloroform. I have at present, at the Lying-in Charity, a case in which I thought morphia was indicated, and in which it was used. I will briefly give the history: The patient was a primipara, aged 19 years, admitted to the hospital early in March. She was in good health, and the examination of the urine, which was made weekly, showed it to be normal. On the morning of March 30 she complained of headache, and was put to bed. The resident physician, thinking that the headache was due to intestinal disorder, gave one-sixth of a grain of calomel, repeated frequently. At 11 o'clock A.M. the patient suddenly developed an epileptiform convulsion, lasting two minutes. This was followed in

the next half hour by two more paroxysms. I had the fortune to be in the hospital at the development of the first convulsion, and, realizing its serious character, I administered morphia at once, giving one-quarter of a grain hypodermatically, and on the occurrence of the second convulsion, another quarter of a grain, and subsequently an eighth of a grain—making in all five-eighths of a grain.

The convulsions then ceased, and, finding the os somewhat dilated, I ruptured the membrane. Labor then developed rapidly, and at 5 o'clock P.M. the head was well on the perinæum, and then another convulsion developed. A quarter of a grain of morphia was again administered, and the child was born at 6 o'clock. Another convulsion occurred at 7.15 P.M., and a quarter of a grain of morphia was administered. At 9 o'clock another convulsion occurred, and another quarter of a grain was given. At 1 o'clock the next morning there was another convulsion. The last convulsion occurred at 4 A.M. During the sixteen hours one and five-eighth grains of morphia was given. During the intervals between the spasms the patient was profoundly narcotised. At times the skin was moist. In the first twenty-four hours she passed, by catheter, sixteen ounces of urine; it was found to contain one-fifth of its bulk of albumen. In the next twenty-four hours twenty-six ounces, and in the following twenty-four hours twenty-eight ounces. The next day twenty-five ounces, and the next day thirty-two ounces. The patient had no convulsive seizures after 4 A.M., and is now doing nicely. It is also interesting to note that the infant had a convulsion some few hours after birth.

DR. CHARLES P. NOBLE:

I wish to refer briefly to one point. I agree with those who believe in a somewhat general treatment of eclampsia, and in not restricting the treatment to any agent. What I wish to mention is a point which I learned from a gentleman who had had experience in insane hospitals. Some time ago I saw in the Pennsylvania Hospital, with Dr. Miller, a patient who was admitted with puerperal convulsions, and who, practically, had suppression of urine. The doctor passed a tube through the nose into the stomach, and introduced large quantities of water into the stomach, and in that way flushed out the kidneys.

That patient recovered. This was not the only treatment, but was one of the methods employed. Whereas, before the water was injected, there was suppression of urine, shortly afterwards the kidneys acted properly. This struck me as an excellent point, and I intend to use it if I find occasion.

From some experience with cocaine, which I have recently had in partial suppression of urine, I should be disposed to use it hypodermatically in cases of puerperal eclampsia with partial or complete suppression. I have used it in several cases, and it seems to assist in bringing about a secretion from the kidneys.

DR. R. BRUCE BURNS:

Before adopting the use of morphia in the treatment of eclampsia, we shall have to consider that affection in its different bearings. We have eclampsia ante-partum, which in all probability may be relieved by morphia. In ante-partum eclampsia, the probability is that it arises from an uræmic condition. We have eclampsia during labor, and possibly reflex causes may have something to do with its production there, particularly if there is a rigid condition of the soft parts in a muscular, irritable patient. Then we have post-partum eclampsia. There it is probably due to uræmia. In ante-partum eclampsia it seems to me that it is advisable to use venesection at once. By doing that you relieve the tension upon the brain, and diminish the blood pressure in the sinuses, and thus obviate serious cerebral complications. I believe that those cases that terminate in coma are attributable to cerebral effusion.

A danger which I can conceive as resulting from the use of morphia is the protraction of labor. During labor I think that the better plan is to bleed freely, and if the os is dilated to apply the forceps and terminate labor as rapidly as possible. If there is a tendency to convulsions, use morphia or chloroform. The most difficult cases are those of post-partum eclampsia, which often resists all methods of treatment. In classifying my views in the matter, I would say that I think that we have cases in which morphia may be used with advantage, and cases in which it had better be omitted.

DR. JOSEPH PRICE:

The references to the statistics of the morphia treatment are scarcely fair, because

the treatment by morphia is usually combined with chloral or some other method, or it is a mixed treatment. I wish to refer only to the results obtained in the practice of physicians in and near Philadelphia who have implicit faith in the value of chloral. The statistics of eclampsia in private practice are not of record. A practitioner of Ardmore has recently had nine cases of eclampsia in which he relied upon chloral. The cases all recovered. In the practice of a gentleman at Chestnut Hill, there have been three or four cases treated by chloral, and all have recovered. I could cite a number of other cases where chloral has been used heroically without other treatment.

I would allude to a point spoken of by Dr. Burns. In my opinion some of the cases called eclampsia are not such. They would get well without any treatment; for instance, I have twice relieved a patient in spasms by the use of a pitcher of cold water; morphia or chloral were not needed.

The most alarming cases of eclampsia that I have seen have been in women illegitimately pregnant. It is a curious fact that illegitimate pregnancy bears a common causal relation to this affection. They are seemingly the most predisposed to the affection. The attack comes on late—a week or ten days before delivery. The majority occur before delivery—very few after delivery. I have had none in labor. I recently had three cases sent to me for admission to the Preston Retreat. They were not married, and I could not admit them. Two were women in good circumstances, and I suggested that they go to a private house. I questioned them closely for symptoms of approaching eclampsia, but found none, and I had the three return to my office stamped all over with eclampsia, double vision, unilateral headache, puffy face and irritable. In two cases, in twenty-four hours, they were in convulsions. I have seen this so commonly that I have felt like bringing the matter before the Society with a paper.

I think that we can prevent many cases of eclampsia by careful preparatory treatment, antedating delivery by weeks or months. If there is a single suspicious symptom, it is my practice to purge freely. If the bowels can be kept strictly soluble and the diet regulated and the condition of the kidneys improved, the eclampsia can usually be avoided.

Recently a woman came into the Preston Retreat with double vision, unilateral headache and a puffy face. She was at once put upon Rochelle salts, in teaspoonful doses every hour, and in twenty-four hours had had twenty to thirty stools. The œdema vanished, the double vision disappeared, and she had an easy labor, and never twitched, although she was given no chloral, no bromide and no chloroform.

In the ante-partum cases, to which Dr. Burns has referred, purgation, the early use of chloroform and the wise use of the forceps will save many. You must make a classification of the treatment as regards cases. I remember a case in dispensary practice where I delivered a woman who had just been in a tremendous fight. While I was delivering the placenta, an hour after the fight, the woman had a convulsion. I had nothing with me but morphia. I gave a quarter of a grain hypodermatically. She had no more convulsions and got well nicely. She had no renal trouble, nor had she other symptoms. The convulsion must have been due purely to irritation.

I recall two other cases that saw objects on the wall and ceiling. One of these women remains in the Norristown Insane Asylum. She got well of the eclampsia, but never recovered from the insanity. Before labor she had been perfectly well. While in labor she remarked that she saw something on the wall and had a fit.

DR. WILLIAM S. STEWART:

I should like to state that the case referred to by Dr. Goodell occurred some twenty years ago. In this case morphia and bleeding were employed. The woman had a great many convulsions and bit her tongue severely, and I resolved to hereafter try the chloral treatment—chloral being introduced to the profession about this time. I have since then confined myself to chloral, and have lost only one case of my own. This patient I did not see until called to attend her in convulsions. She was swollen so much that she could not be recognized. There was entire suppression of urine. I know of nothing that acts so promptly

as chloral, when given in sufficiently large doses. I do not hesitate to give it in drachm doses, by injection into the rectum. The convulsions are broken at once. If I suspect the possibility of convulsions, I am prepared with the chloral and a syringe. During the past two or three years I have not had a case of convulsions, because, in anticipation of such an occurrence, I am careful to watch my patients, and if there are any symptoms of albuminuria, they are directed then to send me a specimen of the urine. If my suspicions are verified, I at once begin the administration of chloral, not waiting for the convulsion. I was led to adopt this in a case where I had suggested the induction of premature labor, which was refused. There was an enormous amount of albumen in the urine, and at times almost complete suppression. I said to myself, If chloral is good during the convulsions, why not use it before? Having already used various remedies without benefit, I began with chloral in ten-grain doses, and the albumen was reduced. The patient went through labor normally, and I even used the forceps without an untoward symptom. Some months later, when testing the urine, I found albumen was still present.

DR. W. REYNOLDS WILSON:

Dr. Stewart's remarks in regard to chloral are of importance. There is no doubt that chloral is a most effective remedy, but I think that there are cases in which chloral is not indicated, and it is well for the practitioner to know that he has one other resource, that is, the hypodermic use of morphia. The remarks in regard to the diuretic action of chloral are of interest, and open a field for much research. There is no doubt that chloral is an effective diuretic.

In regard to the effect of morphia in delaying labor: In all the cases treated by morphia that I have seen, the second stage of labor was unusually rapid. Whether or not this occurs in eclampsia not treated, I do not know. Although the first stage may be delayed, the second is rapid.

ELLISON J. MORRIS, *Secretary*.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

ORIGINAL COMMUNICATIONS.

An Inquiry into the Causes producing Cerebral Injuries in the New-born.

BY J. MADISON TAYLOR, M.D.,

Assistant Physician to Children's Hospital, Philadelphia ; Professor of Children's Diseases, Philadelphia Polyclinic ; Assistant Physician to Infirmary for Nervous Diseases, etc.

CLEARLY the most important therapeutic agent is systematic prevention. With many diseases this is only a growing possibility, of which we may, as yet, entertain only persistent hopefulness. In the case of certain disorders, however, the outcome of distorted natural processes, this expectation may not only be entertained, but persistently demanded. Where nature needs aid from man's intelligence—and this occurs not seldom, despite the fatalistic confidence of some in her largely resilient powers—faults should be pitilessly cavilled at till perfection in methods is neared. Nowhere is this more evident than in the conduct of parturition. To be sure, an accouche-

ment now is practically safe, under ordinarily competent guidance, so far as the mother is concerned. Floods of purest light are being let in upon the field of the woman and her special woes by recent and, perhaps, exuberant gynecologic research. Not only is she steered through the painful ordeal with rare manipulative skill, but subsequent infective dangers are almost miraculously averted. And if, indeed, destructive lesions occur through this, repairs most efficient are promptly forthcoming at the hands of numerous well-instructed gynecologists in most communities.

Does, however, the baby receive, from the very first, a fair share of at-

tention? Is not this small entity regarded as of so little consequence, when on the threshold of life, compared with its fully developed and socially important mother, and distinctly subordinated, all but lost sight of, except that its general well-being receives some solicitude? This is a question to which no clear answer is here expected, but one very well worthy of grave deliberation. Those of us who see many cases of nervous disease, constantly have our hearts cruelly pained by parents who present children of defective and irreparable minds and bodies, whose hurt has come in through or by the process of birth. To be sure, there are often constitutional faults to blame; usually, however, the damage is wrought, or remote tendencies precipitated, by hurts received at the time of birth.

For some years the subject of cerebral damage—the outcome of faulty labors—has occupied my attention; but searching into the clinical histories of these meets almost no reward. Mothers, while promptly answering that the labor under investigation was a difficult one, are quite unable to give any accurate account of how or why, and to unintentionally mislead. Indeed, the accoucheur seldom can tell much more. At least, it is next to impossible to bring out any adequate cause for the mischief, except the comprehensive and sufficient one of undue delay. Out of much questioning, however, comes some light—enough to point the way. Questions directed to men of large obstetric experience, result in a pretty uniform statement that more harm is done to the cerebrum of the foetus, or new-born child, whichever rôle it may be said to fill, while in transition, by delays in the

second stage of labor, than by the abuse of instruments to expedite it. Neurologists, also, generally hold this view. My failure to find this subject fully considered in literature has led me to directly question those competent to form opinions. Hence I quote enough of these, I think, to enable us to arrive at reasonable conclusions on some points. I especially desire to direct such attention to this matter as shall elicit further evidence, and cherish the hope that something of practical value may yet result to those unborn.

My attention has been much drawn to the profoundly important but little understood subject of cerebral injuries, produced at or near birth, and the practical lessons to be learned from a study of cases thus early occurring. At the Infirmary for Nervous Diseases we constantly see distressing results of congenital brain damage. Our opinion is sought as to how these may be helped, when alas! small hope can be encouraged for any improvement. Whereupon the question suggests itself, How may these be prevented, or what limits may be placed on the ravages of what surely is often, at the first, not a large matter?

When these sufferers come before us it almost invariably has transpired that degenerative changes have taken place, rendering human intervention of little use. Cannot, nay, must not, this matter be studied from the earliest causal factors? It is not in the power of those who guide the infant into its independent being to recognize changes or the concurrence of causes which may be recognized as likely to avert these pathological states in the new-born. Is it not the duty of medical men to exercise a most consci-

entious scrutiny of cerebral symptoms in the young child, and to vouchsafe it a fair measure of attention on its first advent?

I have endeavored to review the more recent, at least the more thoroughly formulated, opinions on the pathology of cerebral palsies in infants.

In doing this I have had especially in mind the solution of the question whether these hurts are to be blamed more on the damaging effects of compression, exerted on the child during long, slow, difficult labors, or upon instrumental or other interference at the hands of the average physician. Thoroughly skilful versions or forceps deliveries seem to be regarded as devoid of damaging sequelæ; but as to whether these operations, at the hands of the general practitioner, are likewise to be encouraged there appears to be some doubt. This dilemma is arising incessantly, however, and must be solved without undue delay; hence it may be well to call attention, in passing, to the gravity, in consequences to the infant, of this frequent operation.

There have been hereon many changing views at different times, and not seldom in the same individual. It may prove of value to quote an array of individual opinions, although this involves some repetition; yet I hope the importance of the subject will excuse the length of these.

At the end is offered a series of entirely new statistics from the chief maternity hospitals in New York and Philadelphia. At least I give what can be gleaned from the records of the very few where adequate records are kept. Many institutions of the

kind keep none which throw light on this most vital question. Nor do the records of our hospitals give much aid in learning the circumstances of the birth or parental condition.

It will be instructive to exhibit a clinical picture of these instances of brain atrophy, and I borrow the admirable description, given by Dr. M. Allen Starr, in a paper published in the *N. Y. Med. Record*, Jan. 23, 1892.

Dr. Starr considers these under three groups: (1) Cases of Hemiplegia, with or without athetosis; (2) Cases of mental defects of various grades; (3) Cases of sensory defects of different types. Epileptiform seizures may occur frequently in those who may be assigned to any one of these groups, and may be the particular symptoms in regard to which advice is sought.

It occasionally happens that these congenital conditions pass unrecognized from the cradle to the grave, unless the individual falls under the observation of a keen-scented physician. Especially is this true of curious mental obliquities occurring in those otherwise reasonable.

In reviewing these groups, Starr says:

"(1) The symptoms of the first group are the sudden development of a unilateral paralysis, after a series of convulsions, attended by high fever, and a period of unconsciousness of varying duration; then a gradual improvement in the paralysis, after the active manifestations of the onset have subsided, and, finally, a stationary condition, in which the face is but slightly affected in its voluntary or automatic movements; the speech is usually restored, the arm is quite seriously paralyzed, the fingers stiff

and awkward, and sometimes in constant, slow, involuntary movement (athetosis); the leg is held rigid; there may result a limp or club-foot.

"There are, on the one hand, severe cases, in which a double hemiplegia has occurred, both halves of the body being equally affected, and in which both arms are useless and both legs so stiff, so closely adducted and so helpless that walking is impossible. These latter are cases in which all the symptoms date from birth—the birth palsies of Gowers. In all cases the paralyzed limbs are found to be affected in their growth and development, so that they are smaller, colder, stiffer and weaker than the others; the reflexes are exaggerated, but electrical reaction are not qualitatively changed and sensation is normal. This condition remains through life as a permanent defect, and in more than one-half the cases epileptic conditions are of frequent occurrence.

"(2) The second class of cases presents mental defects rather than physical symptoms. The child may be slow in learning to walk, may seem unable to fix its attention upon anything continuously, may be exceedingly active in constant motion—the activity being, however, aimless; may be difficult to manage because of its inability to retain and combine impressions with sufficient power to reason upon them. Such children may have good powers of perception, may recognize persons and objects, show pleasure in bright colors or music or caresses, but fail to show evidences of thought in the sense of reasoning power, judgment or self-control. Some are manifestly imbecile and others are bright in many directions, may be precocious, show

talents in music, drawing, languages, yet are unable to appreciate moral ideas; cannot be taught to tell the truth, are cruel and bad, will not control any of their impulses, and so are the despair of parents and teachers. It is those mental qualities which are the product of the highest evolution which fail to develop in this class of cases. The final result is that they have to be cared for all their lives. Many have epilepsy.

"(3) The third class of cases is less common than the two preceding, and is likely to escape observation unless carefully investigated. The patients belonging to this class present no motor nor mental defects, though they may be the subjects of epilepsy. They do have defects of sensory perception. It is probable that many cases of deaf-mutism belong to this class. Rheinhardt has described a case in which permanent deafness was due to manifest defects in the temporal convolutions of both sides. Dr. Donaldson noted marked deficiency of development in the temporal and occipital convolutions of Laura Bridgeman, who was both deaf and blind."

D. F. W. Ballantyne¹ says: "It would seem in some cases that morbid conditions may exist in the fœtus without apparently influencing intra-uterine health and development. So soon, however, as the fœtus is born, such conditions may become active pathological factors, leading to disease and in some cases to certain death.

"Whilst there are certain notable exceptions to this statement, the general rule holds good that fœtal

¹ Edin. Med. Jour., March, 1892.

pathology obtains but a small place in the curriculum of medical study, with the inevitable result that the hard-worked general practitioner who has already great difficulty in keeping pace with the new discoveries in medical and surgical treatment, is compelled to abandon as hopeless the attempt to understand the diseases of the foetus, and even to some extent those of the young infant. The silence of the profession upon such matters has indirectly tended to fasten ignorance and superstition upon the laity, and I take it that the existence of so many erroneous popular beliefs concerning infantile health is a grievous blot upon the civilization of the century now drawing to a close. Enormous strides have been made in the laws which govern health in the adult, and a more correct conception of the factors which govern the well-being of the child has been disseminated far and wide, but there yet remains the most erroneous notions with regard to the value of foetal life and the nature of foetal diseases and deformities."

HÆMORRHAGES IN THE FŒTUS AND NEONATUS.

D. A. Jacobi has pointed out most admirably¹ that the young infant has proportionately less bulk of blood, and that it is defective in fibrin and salts, insoluble albumen, in specific gravity, and at first an excess of hæmoglobin and white blood-cells. Though the composition of the blood would seem to predispose to pathological changes, it does not to hæmorrhage, so long as the blood-vessels are structurally sound. The size of the infant's head is relatively large, but

the blood pressure (E. Hoffman) is very small; the larger arteries when cut do not spurt. This low arterial tension would seem to account for venous stasis, and hence to predispose to bleeding in the venous territory.

In the arteries of medium and small calibre the elastic membrane is thin and simple; it is only in the larger arteries that the elastic fibres extend into the adjoining layers. The elastic membrane is liable to be thin when the arterial branches are given off—hence the origin of aneurisms in later life. Virchow explains certain most persistent forms of chlorosis by the thinness and smallness of the arteries; hence the explanation of certain profuse hæmorrhages which take place during this disease. Dieulafoy¹ describes the cases of hereditary cerebral hæmorrhages which defy any other explanation than that of a physical defect. "The greater the fragility of the blood-vessels of the newly-born the greater should be the caution on the part of the obstetrician. The undeveloped condition of the blood-vessels and the cranial bones are the usual causes of cephal-hæmatoma, yet many cases are avoidable." Dr. Jacobi declares the forceps are responsible for much of this. The helpless infant cannot at first give evidence in its own behalf as to sight, hearing or motion, and only misleadingly in matters of sensation. It is only as time wears on that we can learn of sensory variations, speech defects, or get the finer muscular co-ordinations and learn of changes in the integrity of the organs of special sense. At birth little can be clearly predicted of what seems to be damaged states, or esti-

¹ Am. Jour. Obst., June, 1891.

¹ Gas. Hebdom., 1877.

mate aright moderate departures from normal ones. It is usually the fate of the infant to receive only secondary attention once it is safely brought forth, and only a casual inspection at the hands of the accoucheur.

Hence it behooves this same guide, who presides at the most momentous period of our lives, not only to exercise the highest skill of which he is capable, in aiding to transform the foetus into a human being, and to promptly recognize such marks, both during that process and immediately thereafter as may indicate aught amiss.

The congenital cerebral palsies are very like the hemiplegias of later life, and may be single or double (diple-gias) or paraplegias; they are accompanied by spastic symptoms and mental defects, and usually exhibit epileptic tendencies. The parts paralyzed atrophy in various but usually moderate degrees, and are unattended by marked alterations in electrical states.

Many instances are due, in part, to hereditary tendencies, inherent defects in the foetal tissues, acute disease in mother or foetus, to traumata, the result of shock or compression, or, more commonly, to a combination of certain of these factors. The best known causes are suppurative meningitis, cerebro-spinal meningitis of sporadic or epidemic type, and cerebral meningitis of traumatic origin. Few deaths occur while acute conditions maintain, and when slow changes have progressed, primary states are obscured, becoming wrapt in a cloud of conjecture. The clinical picture presented in the neonatus, where motor areas have received damage, is far from clear. Many states which would seem

most hopeless, as of cyanosis and crushing, pass away and leave no trace; others, whereon suspicion only may have fallen, and yet not much, prove destructive of the dearest functions and prove progressively disabling.

Chaslin,¹ at Feré's request, examined five brains taken from epileptic subjects. In all of these the most careful microscopical examinations revealed an increase of neuroglia tissue, with the formation of small fibrils emanating from the spider cells of the neuroglia.

Chaslin infers that this is a sort of gliomatous cirrhosis, and that this cirrhosis is to be found in epileptic brains of entirely normal microscopical appearance.

B. Sachs² says: "This secondary sclerosis is the pivot on which the whole question of repair or relief turns.

"In cases of idiopathic epilepsy the initial causal lesion has not yet been determined. In childhood the cortex suffers foetal injuries, which might well be called traumatic, if due to external force; but whatever the cause we have a meningeal hæmorrhage often enough; the clot resting upon the cortex may be absorbed, but it has given rise to a local change, which extends, by degrees, until it finally leads to secondary changes in the form of a lobar sclerosis. Paralysis and epilepsy are the chief symptoms of this condition."

Marie³ denies hereditary epilepsy, and claims that children may be born epileptics, but they have not been conceived such. He implies that as

¹ La Sem. Med., 1889.

² N. Y. Med. Journal, February 20, 1892.

³ Progrès Med., 1887, No. 44.

in the case of congenital cerebral palsies, some slight lesion has been established during the intra-uterine period. The lesion may be lost sight of, but the secondary degeneration following upon this is the cause of supposed hereditary epilepsy.

Feré¹ has furnished strong evidence in favor of this view.

PROPORTION OF CASES CONGENITAL.

Sachs and Peterson,² in a table of 140 cases, state that of 105 hæmi-plegias, 22 are congenital; of 24 cases of diplegia 20 are congenital, and so are 7 or possibly 8 of the 11 cases of paraplegia. The diplegias and paraplegias are more likely to be of congenital origin; hemiplegias, more apt to be acquired in the first three or four years after birth, but it is well worth noting that there are 22 congenital cases of hemiplegia—over 20 per cent. of all the cases of hemiplegia—some of the cases noted as occurring in the first year may be congenital. In Osler's tables of 120 cases of hemiplegia, 15 are congenital.

Sachs and Peterson also give a table, showing the ascertainable causes in 49 cases of congenital cerebral palsy. This is by far the most thorough tabulation given in any paper with which I am familiar. I need do no more than refer to it.

"The table of causes in the congenital cases points a moral; in 16 cases of the 49, or 33 per cent., there was some difficulty in labor, simple delay or instrumental delivery. The older writers, Little and Gaudard, and others, refer to this cause, but have tolerably favorable statistics; Little mentioning but 4 cases; Wallenberg

gives 6 of 160 cases, and Osler 9 of 97 cases. The authors mentioned refer to hemiplegia only, and speak of forceps delivery as the only danger. Our percentage is higher, because we include all forms of cerebral paralysis and tedious labor, as well as instrumental delivery.

Congenital cases of diplegia and hemiplegia may be due to early meningeal hæmorrhage, and possibly to an early encephalitis. In acquired and meningeal cases of hemiplegia and diplegia, we may have either a condition of porencephalus or immediate arrest of development. Among the congenital cases there is usually a history of traumatism to the mother.

William T. Lusk,¹ in an article on "The Saving Methods of Stillbirths," reviews the reasons for the first respiratory movements of the child, speaks of two theories which contend for supremacy. The one formulated by Schwartz maintains that in all cases the respiratory act is due to disturbed placental circulation and the consequent lack of oxygen in the blood of the child. Preyer, on the other hand, insists that respiration is a reflex movement provoked by cutaneous stimuli. He admits that a venous condition of the blood favors the action of external stimuli by increasing the irritability of the respiratory centres.

He goes on to say: "During labor, especially in the last stage, the placental æration of the blood is interfered with by the uterine contractions, and in its passage through the pelvis the surface of the child is subjected to pressure and friction." How much are these dangers inten-

¹ Les Epilepsies et les Epileptiques, Paris, 1890.

² Jour. New. Treat. Dis., May, 1890.

¹ Am. Jour. Med. Sciences, February, 1891.

sified in unusually prolonged labors. In the asphyxia of new-born infants the suspended animation is, with few exceptions, preceded by intra-uterine respirations. The causes of the latter are to be found in tetanic contractions of the uterus and the consequent diminished blood supply to the placenta, in premature detachment of the placenta, in compression of the cord and in the sudden death of the mother. Of these the compression of the cord is by far the most common.

The first efforts of the compression of the cord is to arrest the circulation in the umbilical arteries. The pressure in the aorta is thereby augmented, and increased work is then upon the left ventricle.

When the compression of the cord is temporary the circulation may be restored, the apnœa may again return; but in a case where the respirations continue, the capillaries of the lungs fill with blood from the pulmonary artery, the intra-thoracic congestion is increased and the heart action is lowered. As the irritability of the medulla sinks the respirations fail, the cavities of the heart fill with venous blood, the lungs are congested and in some instances sub-pulmonary ecchymosis result from overdistention of the pulmonary vessels. Outside the thoracic cavity the venous trunks are often distended with blood. The secondary venous stasis is most marked in the vessels of the neck, head and brain; but to a less degree venous stasis are likewise observed in the abdominal organs and in the capillaries of the skin.

Again: "In fatal cases the pulmonary vessels are found to be widely distended, the lungs are heavy and of a dark red color, the pulmonary, sub-

pleural subpericardial and subendocardial ecchymoses are present. The obstruction of the pulmonary circulation further produces congestion of the abdominal viscera and brain." Thus does this masterly observer point out the phenomena of asphyxia which is so commonly the early state of those in whom this long array of cerebral degeneration changes explain themselves.

THE OBSTETRIC FORCEPS.

Jacobi points out that the forceps must, by their very presence between the head and the pelvis, diminish further the narrow space. They surely compress, as witness indentations and other traces on the surface. In doing this they press, tear and strain blood-vessels and thus hæmorrhages follow many applications of these instruments. He hastens to say, however, that we must bear in mind that it is pressure that gives rise to bleeding, and hence serious cerebral consequences, and this is by no means chiefly due to the forceps, for there are more fatal cases from prolonged labor than from instrumental deliveries, and a great many fœtuses beginning to die in utero are saved by judicious interference. The real cause for cerebral damage is traumatic injury to cerebral tissue, or hæmorrhage, or at all events circulation rendered abnormal for a shorter or longer time. This occurs in asphyxia or suspended or interrupted animation, and destroys many who but for it would live. It results in meningeal and encephalic hæmorrhage, by retarding or impeding circulation through thrombosis, only either proving fatal at once, or giving rise to permanent paralysis. Asphyxia

results in often worse than death, viz., idiocy or feeble-mindedness. The longer this continues the greater the peril. The prognosis is better of breech than of head presentations. The great majority of idiots are first-born children—boys; the male head is a trifle bigger, hence more pressure. Usually a history of asphyxia is to be had. Langdon Downs¹ says forty per cent. are first-born and had asphyxia. Asphyxia results in congestion, effusion, thrombosis, extravasation, destruction of nerve-tissue, secondary inflammation and cystic degeneration.

Dr. B. Sachs, in answer to certain questions, writes me thus: "The point I made in my paper with Peterson has been brought home to me even more forcibly by continued studies, namely, that prolonged labor does more injury to the child's brain than the proper application of forceps. If these are misapplied the effect is, of course, very disastrous. That first-born children (*i. e.*, more protracted labor) are more frequently afflicted with cerebral palsies, is an assumed fact. It seems to me that medical men, with large obstetrical practices, and, above all, lying-in institutions, should be asked, if possible, to keep some sort of record of the children born under their notice for the first three years of life. It would be more interesting still if such records could be obtained from European clinics, since narrow pelves and cases of complicated labor are so much more frequent there than here."

Dr. Sarah J. McNutt, of New York: "I believe that slow, protracted labor has been a vastly greater factor in producing cerebral injury

than instrumental delivery; and in those cases where forceps have been used and lesions of the brain have developed that they have been the result, not of the use of the instrument, but of the condition that made them necessary. Cases have been reported where prolonged labors resulted in cerebral mischief, although instruments have not been used, while preceding labors in the same mother have been instrumental, and yet the children have escaped injury. While formerly the application of the forceps was supposed to be the element of greatest danger, a comparison of statistics has clearly proven that protracted labor was a more potent cause of harm to the child's brain, and that the forceps was a truly conservative instrument when rationally employed. The intense venous congestion, accompanied by prolonged compression of the brain, made worse by the asphyxia at birth, I believe to be directly responsible for the altered nutrition of the cerebral nerve-cells or hæmorrhage from the blood-vessels of the pia mater, and that there is a close connection between prolonged labor and asphyxia and the idiocy and cerebral palsies of children."

Professor Barton C. Hirst, of this city: "From a considerable experience in brain injuries to infants, as obstetricians see them, I am convinced that it is not so often the forceps as delayed labor which causes them.

"If the head is injured by the forceps, by rude application or too great pressure, the damage is almost always confined to the scalp or the skull. Meningeal hæmorrhages and crushing of the brain substance are usually the result, on the one hand, of the intense congestion of the brain, as well as of

¹ Trans. Obst. Soc., London, 1876.

other internal organs, in delayed labors; and on the other hand, of prolonged pressure of the promontory of the sacrum upon the head, and of the tremendous squeezing to which the head is subjected when it is delivered last through a contracted pelvis.

"In the former case I have seen the cerebral tissue, in the neighborhood of the parietal eminence, so crushed that on opening the skull the brain matter from a considerable area ran out like melted butter.

"Any one who makes a number of post-mortem examinations of infants, which die in the first few days of life, must be struck by the number of cases in which the only lesion is intense cerebral congestion, with serous effusion.

"In all cases hereafter in which there is no demonstrable pneumonia, sepsis or atelectasis, but in which the child is evidently ill after birth, I intend to try an active purgation, with calcined magnesia, to see if the brain congestion and effusion can be relieved.

"It is highly important that all physicians practicing obstetrics should watch the newly-born infant with care for symptoms of disease which possibly could be remedied in its incipency. This is not always done. There are many difficulties, however, in the way of diagnosis. I have seen most extensive meningeal hæmorrhage without symptoms that admitted of an approximately certain diagnosis."

Dr. Anna M. Fullerton, Woman's Hospital of Philadelphia: "My experience corresponds doubtless with that of others—that all complications of labor which tend to produce asphyxia are productive of cerebral hæmorrhage and its consequent phe-

nomena. Thus, in the cases of podalic presentation in which I lost the child, death was almost invariably due to cerebral hæmorrhage rather than to lung complication. In some cases temporary paralysis existed for a time. Forcible pressure over the uterus, to aid in the extraction of the after-coming foetal head, to my mind, is in this way productive of injurious result. In cephalic presentations I am inclined to think obliquity of the head, with the consequent delay thus caused in its engagement and descent, is a frequent cause of cerebral hæmorrhage. Manual correction of this position should, if possible, be accomplished, rather than a too hasty employment of instruments, as the head must be unfavorably seized for compression by the forceps and thus the difficulty increased. I never have had a forceps delivery in which other than a temporary facial paralysis occurred. Premature and feeble infants appear to me most ready to suffer from the evidences of brain compression."

Dr. William Goodell: "My experience would lead me to the belief that the great majority of cases of cerebral palsies are due to the acute and unequally distributed pressure of the forceps upon the child's head, rather than to the prolonged, but equally distributed, pressure in an unaided labor. More frequently have I observed these lesions when the blades of the forceps have been applied, either obliquely or transversely, on the child's head, instead of on its sides. For then, not only is the force more unequally distributed, but the amount of the pressure of the posterior blade is expended upon the more vital portions of the brain."

Dr. Charles D. Scudder, of New

York City: "My experience in obstetrics has been very peculiar. Although I have had versions, forceps causing convulsions, hæmorrhages, slow labors, and about all the nasty complications and abnormal conditions, I have never yet encountered any cases of 'cerebral palsies the result of parturition.'"

Dr. Joseph Price, of Philadelphia: "During my stay at the Preston Retreat I have not had a direct or remote cerebral sequela of parturition in the infants. I have never had a single palsy, but many complicated labors and some with marked pelvic deformities. Some induced labors at the eighth month, for contracted pelves, the infants all delivered sound and remained so." Dr. Price is known to be fierce in his denunciation of the promiscuous use and misuse of the obstetric forceps, and is on record in several papers and addresses. He is inclined to attribute much damage to this agency.

Professor W. W. Jaggard, of Chicago: "The cases that I have encountered have been traumatic in origin, due usually to the trauma of prolonged labor, rather than to the violence inflicted by instruments. Of course, this remark does not apply to peripheral palsies—like facial paralysis following the pressure of the blade of a forceps. Internal cephalhæmatomata are of more common occurrence; this is generally recognized. Labor in which centric palsies occur are either protracted or precipitate. In the latter case, an internal cephalhæmatoma is not uncommon."

Prof. J. N. Morton, of Ann Arbor, writes me to this effect:

"Last November (1891) I read a paper before the Kalamazoo Academy

of Medicine on the effects of difficult labor upon mother and child. I am of the opinion that such labors do, more often than is generally believed, result in injury to the brain of the child, and may result in paralysis or mental disturbances. I cited three cases in that paper as illustrations:

"(1) After a few convulsive movements the child expired. A post-mortem examination revealed fracture of parietal bone, rupture of vessels and effusion of blood into brain; pelvis was contracted, antero-posteriorly, child's head probably injured on prominence of sacrum.

"(2) Child lived for several hours, with an expression indicating cerebral disturbance, which terminated in convulsions and death. No post-mortem examination.

"(3) Another, now 4 years old, which was delivered after much labor (with forceps), shows to this time defective mental development, which I am inclined to believe was due to injury at birth. (Child was large; mother's weight, 204 pounds, and four feet seven inches in height.)

"We all too often deliver still-born children, and I am of the opinion that, if post-mortem examinations were made in such cases, we would quite frequently find a definite cause of death by rupture of vessels inside the cranial walls."

Dr. J. Milton Mabbott, some time resident obstetrician to the Nursery and Childs' Hospital, New York, and to whom I am indebted for the valuable statistics appended to this article, expresses his views thus:

"The number of births during my three years' service were five hundred and six (506). In this number of births forceps were applied fifty-

seven (57) times, only one case requiring the Tarnier instrument. One case was an application of forceps to the breech.

"As indicated in the enclosed notes, out of the fifty-six cases in which forceps were applied to the head, there were three (3) still-births, and six (6) deaths within two weeks after delivery (case No. 3 being omitted, because born outside hospital). While admitting that some of these still-births and deaths may have been dependent, in part, upon injury inflicted through use of the forceps, the conditions in these cases were such that, I believe, the forceps offered more hope of saving these lives—already endangered—than any other justifiable means at our disposal. In my opinion, prolonged and difficult labors and maternal vices are certainly causes of cerebral mischief in the new-born. But if the latter—*e.g.*, syphilis, alcoholism, etc.—interfere with the development of the child, the foetal head at delivery, though more vulnerable, may escape injury by reason of its smaller size.

"I abstracted records of all deaths from causes congenital, or possibly due to delivery, occurring under the age of 14 days, among 506 cases. I abstracted still-births only in cases in which death occurred during delivery with presumable 'cerebral mischief.'"

Dr. Egbert H. Grandin, of New York, says: "On inquiry from my obstetric service at the Maternity Hospital and at the Infants' Asylum (New York), I find that we are not in possession of any data relative to the causation of cerebral palsies in the new-born. At the former institution the babies are kept under observation for an average of four weeks;

at the latter, for an average of eight to ten weeks. The reason why such cases do not come under our observation is because we endeavor at both institutions to practice what I would term "scientific" obstetrics—that is, by reason of careful pelvimetry before labor, and by means of approximate estimate of the size of the *fetus in utero*, in its relation to the pelvis, we generally are able to make up our minds as to what will be the probable course of labor, and as to whether one or another obstetric operation ought to be *elicted* in order to reinforce the maternal forces, or in order to foretell maternal or foetal exhaustion. The result is, that with us protracted labors are not met with, judicious interference taking the place of waiting *ad infinitum* on Nature. A further result is that version (the conditions being favorable) is preferred to high forceps (*forceps above* the brim), this meaning often less protracted compression of the foetal cranium."

Letter from Dr. Wharton Sinkler, of Philadelphia: "I believe that they (cerebral palsies) are usually due, rather to protracted labors than to forceps interference, and that the cases in which the history of instrumental delivery leads to a suspicion that pressure from the forceps has caused the paralysis, are probably only the result of the prolonged labor.

"I have frequently seen cases of typical birth-palsies, in which there was simply protracted labor, and no instruments had been used. In many of these cases of hemiplegia from birth, there must be imperfect development in the motor area, which accounts for the paralysis rather than pressure at the time of labor. I recall one patient who was the youngest of nine chil-

dren, the others perfectly healthy; the labor was normal, and yet he suffers from spastic diplegia.

"However, as to my opinion of the cause of a cerebral palsy which has occurred at birth, I would say that it is no doubt due to hæmorrhage from pressure, whether by forceps or in the pelvis by the natural forces."

Dr. J. Hendrie Lloyd, of Philadelphia, whose observations are wide and keen, tells me he inclines strongly to the opinion expressed by Prof. Wm. T. Lusk, that this asphyxia, which has often been ascribed erroneously to pressure on the head during labor, or to the action of forceps, is probably more truly the result of compression by the placenta in protracted cases, interfering with the proper æration of the child's blood. In this condition ecchymoses have been observed, not only beneath the membrane of the brain, but also in the pleural cavity and in the capsule of the liver. He says: "This compression of the placenta in protracted labor has not been sufficiently recognized as the cause of serious or even fatal injuries to the brain in the new-born," and suggests timely interference as conservative and valuable.¹

Dr. Edward P. Davis, of Philadelphia: "There can be no question but that the lives of many children, and the cerebral development of others, are jeopardized or lost through difficult labor, in cases where pressure upon the skull is the complication present. Most of these cases arise through ignorance in diagnosis. No patient should be allowed, if possible, to go through a first labor without measurement of the pelvis and an

effort to estimate the comparative size of the pelvic canal and the fœtal head. From data gained by such an examination the obstetrician can determine the grounds for interference, the time of interference and the best method. As knowledge of infant-feeding becomes more widespread and complete, it will undoubtedly be found more advantageous to induce labor than to deliver a child after prolonged labor by forceps. There is no positive evidence that the skilful use of forceps injures mother or child. Under the term *skilful*, however, we include the knowledge and practice of pelvimetry, the comparative measurement of the fœtus and birth-canal, antiseptic precautions during forceps delivery and a knowledge of the principle of axis-traction, together with such surgical skill as shall enable the operator to immediately repair injury to the genital tract. When forceps are so used they are conservative instruments. Cerebral injury following prolonged labor is commonly caused by hæmorrhage resulting from pressure. Laceration of the scalp and fracture of the cranium are evidences of unskilful manipulation."

Dr. Geo. A. Rex, of this city, whose experience in obstetrics is really enormous, and whose judgment and skill are commensurate, gives me his opinion thus: "I believe that instrumental injuries must exceed the others in numbers. It must be remembered, however, that both causes may be combined in the one case, *e. g.*, where the physician *delays* using the forceps. There is, moreover, an element of falsity in statistics, derived entirely from the statements of parents, as to the degree of difficulty of their labors. There are forceps de-

¹ Am. Jour. Med Sci., April, 1891.

liveries of varying grades of difficulty, but the average patient classes them all together as equally difficult. We, as physicians, know that many, perhaps a large proportion, of forceps deliveries are absolutely safe, for both mother and child, but the patient does not recognize that fact. The same point may be made with non-instrumental deliveries. Patients habitually speak of their dreadfully hard labors when the accoucheur would class them only as slow, natural ones. To repeat, I believe that instrumental labors are most fruitful of injuries, yet I cannot back my belief by actual experience."

It may seem presumptive in one whose knowledge of obstetric procedures has not grown by constant experience, to dictate to those who understand the subject. It is permissible to do this, perhaps, since the evil results of carelessness or ignorance during this most critical event are so many and so heart-rending. Moreover, what I shall say is the consensus of many who are accomplished in obstetric art.

The graduates of medical schools, so soon as their diplomas are secure, regard themselves—and the public justifies them in so doing—as fit to attend women in labor. Indeed, the rôle of accoucheur is one most common to the average medical practitioner. His capacity to fill this rôle depends upon his mental gifts and specific training, and must vary widely. When grave exigencies arise he may recognize these, but regarding parturition as a physiological process, he stands in peril, or more properly the woman and child stand in peril, of his trusting either too much to the unaided powers of nature, or in equal

danger of over-confidence in his knowledge of how to supplement her efforts. It is but reasonable to call to the attention of teachers of obstetrics the need of very great emphasis on this point, viz., that the exercise of judgment, when to interfere, is a grave responsibility not to be lightly assumed; that it is the part of wisdom to seek, and that speedily, the counsel of one whose experience and knowledge endows him with the right to decide.

And, further, if hurt has come to the neonatus he must be prompt to recognize and swift to aid, so that a worse fate than death shall not come to the innocent and helpless being entrusted to his care.

I have scrutinized the very large number of cases of congenital cerebral palsies on the records of the Infirmary for Nervous Disease—classified variously as spastic palsies, hemiplegias, epilepsies, defective mental developments, etc.—and find, to my extreme disappointment, very little light shed on their ætiology. In the "epilepsy" books the questions are printed in regular form and the answers briefly set opposite. These take note of parental history, consanguinity, habits, disease, tendencies; personal history, injuries at birth, habits, etc.; age at which first fit occurred and many essential points not bearing upon my special research. So difficult is it to elicit correct answers from parents, however, that I am forced to reject altogether much of the data here collected. I had tabulated them at some length. Among the epilepsies there is seldom any well defined evidence of palsies or spasticity. It was my intention to report these in this paper, along with the

valuable data from the maternity hospitals.

There is too little of value in these, however, bearing on the causes, to warrant more than a cursory survey. There is very commonly to be found a history of a long, difficult labor in probably seven-tenths of the well-marked instances of palsy; in about six-tenths forceps were used; generally asphyxia is described, and often fits have occurred. These last cease early, and till the second or third year, after which degenerative changes become more obvious. It does not seem feasible for the primary cause to be made clear by the neurologist, search he ever so shrewdly. This is rather the privilege of the obstetrician; and with him, too, lies so much as may be defined of opportunities for prevention, and for him, also, is the glory.

The achievement of preventive measures, so far as human foresight and intervention can compass these, is a matter in which I should conceive it a great honor to have some part. The accoucheur can do most; his are the greater possibilities. It may be that the neurologist can aid some whit in deciding what shall be done to limit the ravages of effusions, especially when these are gross and cortical; if more remote, or general damage occurs, the hope for relief is small. When asphyxiation is performed, not only may life be saved by prompt measures, as defined by Professor Lusk (*op. cit.*), but the relief of vascular tension may not seldom prevent extravasations and the like. Again, the wisdom of prompt opening of the skull and removal of clots needs the surgical judgment and may, at least, be considered hopefully.

We know too little of the whole matter, but it seems a most promising field for systematic exploration.

STATISTICS FROM NURSERY AND CHILD'S HOSPITAL, NEW YORK.¹ COMPILED BY J. MILTON MABBOTT, M.D., RESIDENT OBSTETRICIAN.

Case I.—December 16, 1887. Murray, aged $\frac{3}{4}$ hour. Death caused by asphyxia neonatorum. Labor protracted. (B.²) First stage of labor, 112 hours, 30 minutes, with intervals during which pains ceased for several hours at a time in the night, but pains occurred every 5 to 15 minutes in daytime. Second stage of labor, 3 hours, 5 minutes. Delivery by natural forceps. Weight of child, 6 pounds 14 ounces. No autopsy.

Case II.—March 20, 1888. Golden, Jos., aged 1 day. Death caused by asphyxia neonatorum. (Adm.³) Mother died of exhaustion outside.

Case III.—May 9, 1888. Sherlock, Thos., aged 19 days. Death caused by protracted compression of head during birth. Inanition. (Adm.) Forceps. Labor lasted 7 days; second stage, 12 hours. Forceps on account of uterine inertia. No autopsy.

Case IV.—July 9, 1888. Donnelly, Nellie, aged 13 days. Death caused by congenital cyanosis. (B.) *Autopsy*: Brain not examined.

Case V.—August 2, 1888. Hicks, Fred., aged 13 days. Congenital syphilis. Death caused by syphilitic pneumonia. (B.) *Autopsy*: Brain normal.

Case VI.—September 6, 1888. McNamara, Carmelite, aged 13 days. Death caused by compression of brain during birth. Inanition. (B.) First stage, 4 hours, 30 minutes; second stage, 3 hours, 39 minutes. Forceps. Maternal pelvis small. Child's weight, 6 pounds 15 ounces. September 5, 1888, pupils equally contracted; tonic spasm of voluntary muscles; eyeballs rolled upward. No autopsy.

Case VII.—November 1, 1888. Payne, James, aged 17 days. Death caused by acute

¹ Mothers of children born in hospital all recovered.

² B.—Born in Nursery and Child's Hospital, New York.

³ Adm.—Admitted to Nursery and Child's Hospital, New York.

meningitis. Otitis media (right). (B.) First stage, 23 hours, 30 minutes; second stage, 1 hour. Natural labor. Unnaturally large fontanelles. Weight, 7 pounds 3 ounces. October 30. discharge from nose and both ears. Rigidity of back of neck. Pupils contracted. *Autopsy*: Executed by Dr. Henry, not recorded (except diagnosis).

Case VIII.—April 2, 1889. Flood, Nellie, aged $1\frac{3}{4}$ days. Death caused by compression of the brain during birth. Atelectasis neonatorum. (B.) *Autopsy*: Hæmatoma of scalp. First stage, 26 hours, 20 minutes; second stage, 2 hours, 50 minutes. Forceps delivery. Mother with small pelvis. Child's weight, 6 pounds 5 ounces. Born asphyxiated. *Autopsy* not recorded.

Case IX.—May 9, 1889. Lang, Wm., aged $\frac{7}{8}$ day. Death caused by morbus cærulens (patency of cardiac foramen ovale). Atelectasis pulmonum. (B.) *Autopsy*: Straight case.

Case X.—July 14, 1889. Campbell, aged $\frac{3}{4}$ day. Prematurity (7 months). Brain not examined.

Case XI.—September 13, 1889. Hay, aged $\frac{1}{2}$ day. Death from congenital syphilis. Atelectasis neonatorum. (B.) *Autopsy*: Brain seems normal. Weight, 5 pounds 10 ounces.

Case XII.—December 3, 1889. Heorr, aged $\frac{5}{8}$ day. Death from atelectasis neonatorum. (B.) *Autopsy*: Brain not recorded.

Case XIII.—January 9, 1890. Gilder, aged 1 day. Death from prolonged cerebral compression during birth. Cerebral apoplexy. (B.) Diagnosis based on autopsy, I believe, but notes of autopsy not found. First stage, 89 hours, 30 minutes; second stage, 3 hours, 30 minutes. Mother very small. Small forceps used. Weight of child, 5 pounds 8 ounces.

Case XIV.—January 12, 1890. Williams, Sam., aged 4 days. (B.) Prematurity. Atelectasis neonatorum.

Case XV.—February 4, 1890. Raclot, aged $\frac{3}{4}$ day. Prematurity. Atelectasis. (B.) Weight, 4 pounds 12 ounces.

Case XVI.—February 11, 1890. Bumoth, August, aged 9 days. Prematurity and acute meningitis. (Based on autopsy probably, but record not found.) (B.) Weight, 4 pounds 8 ounces. Normal labor.

Case XVII.—February 11, 1890. Murphy, John, aged 6 days. Death from cerebral

compression during birth. Difficult forceps delivery. (B.) First stage, 20 hours, 35 minutes; second stage, 3 hours, 25 minutes. Weight of child, 8 pounds. Mother, primipara, 34 years old.

Case XVIII.—March 13, 1890. Chancy, Chas., aged 9 days. Death from hæmophilia. First stage, 5 hours, 35 minutes; second stage, 1 hour, 2 minutes. Weight of child, 5 pounds. Normal labor. (B.) *Autopsy*: Hæmatoma, partial region, beneath hemicrania, and developed shortly after birth.

Case XIX.—June 13, 1890. Lavinski, Chas., aged $1\frac{3}{4}$ day. Death from thrombosis of superior longitudinal sinus. Meningeal hæmorrhage, following prolonged compression of head during birth. Forceps First stage, 5 hours; second stage, 3 hours, 57 minutes. Weight of child, 6 pounds 14 ounces. Child never cried well. Would not nurse. Left pupil larger than right. Left frontal and parietal region of scalp oedematous. (B.) *Autopsy*: Thrombosis longitudinal sinus. general congestion of brain. Hæmorrhage over right parietal region.

Case XX.—September 20, 1890. Deymal, Franz, aged $1\frac{1}{4}$ day. Compression of head during birth. (Edema and congestion of brain and lungs, following asphyxia neonatorum. First stage, 14 hours, 30 minutes; second stage, 28 minutes. (B.) *Autopsy*: Contracted maternal pelvis. Podalic version. Child's weight, 7 pounds 3 ounces.

Case XXI.—October 24, 1890. Gardner, Nellie, aged $3\frac{1}{2}$ days. Cerebral hæmorrhage. Injury to head during birth. First stage, about 24 hours; second stage, 3 hours. Child's weight, 5 pounds 8 ounces. Delivery somewhat premature (eight months). Primipara, 29 years old. Resistant pelvic floor. Easy forceps delivery. (B.) Notes of autopsy not found.

Case XXII.—March 25, 1889. Harper, male twin, No. 2. Stillbirth. Death from thrombosis of superior longitudinal sinus. First twin delivered with forceps, after second stage, 6 hours 34 minutes. Weight, 4 pounds 13 ounces. Lived. Second twin, shoulder presentation; cephalic version; forceps, because frætal heart sounds could not be heard after version. Stillbirth. Weight, 4 pounds 13 ounces; same as No. 1. *Autopsy*: Very deep venous and meningeal congestion. Anterior portion of superior longitudinal sinus

distended by a clot, 1 inch in length, quite firm.

Case XXIII.—November 12, 1891. Herrmann, female. Stillbirth. Death from injury to head during birth. Forceps. First stage, 6 hours 5 minutes; second stage, 1 hour 32 minutes. Weight of child, 8 pounds 2 ounces. Sutures very wide; cranial bones loosely connected; cranium easily compressible. Fœtal heart-sounds heard until end of an hour of second stage, then ceased. Forceps to hasten delivery in hope of resuscitation. No autopsy.

Case XXIV.—December 30, 1887. Cronin. Stillbirth. Dry labor. Cord around neck. Forceps. First stage, 28 hours 40 minutes; second stage, 5 hours 55 minutes. Forceps for failing fœtal heart-sounds after standstill of nearly an hour. Length of cord, thirty inches. No autopsy.

STATISTICS FROM THE SLOANE MATERNITY HOSPITAL, NEW YORK. COMPILED BY
E. A. TUCKER, M.D., RESIDENT
OBSTETRICIAN.

Since the opening of the hospital (January 1, 1888) up to date (November 14, 1891) there have been 1600 confinements. Among these were 19 cases of twins, hence 1619 children have been born. Of these children 113 were still-born; 1506 were born alive: 106 of the children born alive have died, *i.e.*, 7 per cent. deaths: 28 of the children, who have died, were known or supposed to have cerebral trouble of some kind, *i.e.*, 26 $\frac{4}{10}$ per cent.

Following is a statement giving all the details that can be found about the children who died of known or probable cerebral causes. (Where no autopsy is mentioned, none was made.)

Case I.—I-para, 27 years, L. O. A. Female child, weighing 7 $\frac{1}{8}$ pounds. First stage of labor, 25 hours; second stage, 7.49 hours. *High-forceps* operation. Cord once around neck. Child died in three days.

Case II.—I-para, 22 years, L. O. A. Male child of 7 $\frac{1}{8}$ pounds. Born slightly asphyxiated. First stage, 6 hours; second stage, 35 minutes. Died at age of 1 day, with symptoms of *cerebral hæmorrhage*.

Case III.—I-para, 25 years, R. O. A. Male child of 9 pounds. Breathed well at birth. First stage, 5 hours; second stage, 5.35 hours. *Low-forceps* operation. Caput

succed. very large, with extravasation of blood. Lived eight days.

Case IV.—I-para, 25 years, L. O. A. Female child of 6 $\frac{7}{8}$ pounds. First stage, 54.30 hours: second stage, 3.35 hours. *High-forceps* operation. Tarnier's axis-traction forceps applied at brim twice without result: reapplied and kept on for a half-hour, with good progress. Delivery completed with McLane's (short) forceps. Loss of blood, 4 $\frac{1}{2}$ pounds. Child had very large head: marked by blade of forceps on forehead: *facial* paralysis of left side and *paralysis of left arm*. Lived two days: died with symptoms of *cerebral hæmorrhage*.

Case V.—II-para, 24 years, L. S. A., with prolapse of cord and both feet in vagina. First stage, 8.15 hours: second stage, 5 minutes. Female child of 8 $\frac{1}{8}$ pounds. Extracted in five minutes by Smellie-Veit method. Lived four days: died with convulsions.

Case VI.—I-para, 29 years, R. O. A. Male of 4 $\frac{1}{8}$ pounds. First stage, 5.35 hours: second stage, 15 minutes. Brought into hospital with eclamptic convulsions. Chloroformed. *High-forceps* operation; head pulled into pelvis; delivered in 15 minutes. Lived eight days; died of *inanition* and prematurity.

Case VII.—I-para, 26 years, R. O. A. Male of 7 $\frac{1}{8}$ pounds. First stage, 8.15 hours: second stage, 4.37 hours. *Low-forceps* operation: short forceps till head well down, then delivered manually. Lived six days: died with convulsions. Cause of death *said to be meningitis*.

Case VIII.—I-para, 19 years, L. O. A. Male of 6 $\frac{1}{8}$ pounds. First stage, 14 hours: second stage, over 2 hours. *Low-forceps* operation. Lived nine days. Died in *December*; *said to have died of gastro-enteritis*.

Case IX.—I-para, 29 years, R. O. A. Male of 8 $\frac{1}{8}$ pounds. First stage, 37 hours: second stage, 4 hours. *Low-forceps* operation. Lived three days. Cause of death *said to be atelectasis pulmonum*.

Case X.—I-para, 20 years, R. O. P. Female of 7 pounds. Born asphyxiated. *High-forceps* operation. First stage, 40.5 hours. Pains, cramp-like and ineffectual. Cervix dilated by fingers. Forceps (Tarnier's) applied when cervix about half-dilated. Head much compressed: considerable force used over brow and occiput. Right parietal overlapped left parietal: both parietal overlapped frontal and occipital bones. Forceps on for 30 min-

utes. Hæmatoma in frontal region. Temperature, 96° F. 10 minutes after birth. Died 5.45 hours after birth, with temperature of 95° F. *Autopsy*: Lungs incompletely filled with air: a clot about one inch in diameter over frontal bone: otherwise normal.

Case XI.—I-para, 22 years. R. O. A. Female of $4\frac{1}{8}$ pounds. First stage, 10.30 hours: second stage, 10.40 hours. Badly asphyxiated at birth. Died in four days with *convulsions*.

Case XII.—I-para, 20 years. R. O. P. Male of $7\frac{7}{8}$ pounds. First stage, 15.40 hours: second stage, 4.25 hours. *Low-forceps* operation. Cord around neck once. Occiput rotated anteriorly. Caput succed. over both parietals posteriorly. Lived eight days. From third to eighth day had temperature over 101° F., and died with temperature of 103.8° F. *Said* to have had acute meningitis as cause of death.

Case XIII.—I-para, 26 years. L. O. P. (persistent, occiput rotating posteriorly). Female of $3\frac{1}{2}$ pounds. Primary respirations and circulation poor. Died in twelve hours, after having *several convulsions*.

Case XIV.—IV-para, 35 years, L. O. A. Male of $10\frac{1}{4}$ pounds. First stage, 3.30 hours: second stage, 5.21 hours. *Low-forceps* operation. after second stage had lasted five hours. Head was well moulded: the bones seemed firmly ossified. Lived two days. *Autopsy*: Brain and heart normal; in lower part of upper lobe of left lung, along anterior border, is a large hæmorrhagic infarction: abdomen distended with clotted blood, which also distends the tunica vaginalis of left side; large hæmorrhage into right supra-renal capsule, which has ruptured into the capsule of the liver at the lower posterior aspect: the blood has completely stripped off the capsule of the liver over the superior surface of right lobe, and at the anterior superior border has ruptured into the abdominal cavity.

Case XV.—IV-para, 33 years. L. O. A. Male of $8\frac{5}{8}$ pounds. First stage, 12 hours: second stage, 30 minutes. Hydramnios. Cord twice around neck. Born rather deeply asphyxiated, but revived in about ten minutes. Head large and well moulded. Caput succed. on posterior part of right parietal. Normal delivery. *Clinical note* two days after birth: Anterior fontanelle much protruded: twitchings of upper extremities and eyes; one pupil

dilated, the other contracted; protruding forehead; has spasmodic cry, and does not nurse at all; convulsive movements more on right than on left. *Clinical note* three days after birth: Child still has spasmodic cry; ptosis of right eyelid; respiration labored, very rapid (about 150 per minute; heart action irregular, about 116 per minute: died at age of $3\frac{5}{8}$ days. *Autopsy*: "Extensive hæmorrhage on both sides of the brain, over the convexity and at the base: more on the right than on the left side. Source of the hæmorrhage could not be determined. Lungs only partially ærated and contain areas of intense congestion and atelectasis. Heart, liver, spleen and kidneys normal."

Case XVI.—I-para, 25 years, L. O. A. Female of $7\frac{1}{4}$ pounds. Normal labor of 2.35 hours. Left leg deeply burned by hot-water bag two days after birth. Lived thirty days. During last ten days temperature varied between 104.2° and 101.8° F. *Autopsy*: "All organs normal except *pia mater*, which is infiltrated with serum and pus, especially along the sulci. Cause of death: Purulent leptomeningitis, following a burn.

Case XVII.—I-para, 25 years, L. O. A. Female of $8\frac{5}{8}$ pounds. First stage, 6.45 hours: second stage, 1.10 hours. Normal labor. Temperature of child at birth (per rectum), 99.6° F. Temperature the next morning after birth, 104.2° F. Died at age of seven days with symptoms of *acute meningitis*.

Case XVIII.—I-para, 17 years, L. O. A. Male of $6\frac{1}{2}$ pounds. First stage, 5 hours: second stage, 9.45 hours. *Low-forceps* operation, because of uterine inertia. Head delivered with moderate traction. Abrasion over right parietal bone. Temperature at birth, 101.5° . Primary respirations vigorous. Forceps on for fifteen minutes. On the fourth day child developed double bronchitis, and died on the seventh day. Weighed 5 pounds at death. Did not nurse well at any time.

Case XIX.—IX-para, 29 years, L. M. T. Female of 9 pounds. First stage, 1 hour: second stage, $\frac{1}{4}$ hour. Easy birth, with usual mechanism of face presentation. No caput over face. Primary respirations spontaneous. General condition very good. On second day temperature rose to 101.2° : on the third day to 103° ; never below 101° after this. Died on eighth day with temperature of 105.8° F. Convulsive movements more and more marked toward the last. Had "Cheyne

Stokes respiration" shortly before death. Diagnosis: Meningitis. *Autopsy*: Pia mater is excessively congested: about the Sylvian fossæ there is a little subpial hæmorrhage: upper portion of spinal canal is filled with clotted blood: otherwise brain and cord are normal.

Case XX.—III-para, 32 years, L. O. A. Male of $8\frac{1}{8}$ pounds. First stage, 5.40 hours; second stage, .40 hour. *Low-forceps* operation, because of very slow and irregular foetal heart, with no advance of head for half an hour in spite of frequent strong pains. Temperature at birth 98.6° ; slight asphyxia. Traction with forceps moderate for ten minutes. *Clinical note*: Two days after birth, temperature 101.8° ; small subconjunctival hæmorrhage in each eye: breathing rapid (about 50 per minute) and irregular; heart regular at about 140 per minute; eyeballs oscillate and occasionally roll upward: discharge of dark, rusty matter, tinged with blood, from nose and mouth: abundant gurgling and moist râles over both lungs, in front and behind: died on fourth day, with temperature 102° . *Autopsy*: "There is an extensive hæmorrhage beneath the dura mater, at the base and on the right side, under the parietal bone. Small hæmatoma over right parietal bone. Lungs show subpleural hæmorrhage and only partial æration. Slight hæmorrhage in suprarenal capsules.

Case XXI.—VI-para, 32 years, L. O. A. Female of $7\frac{1}{8}$ pounds. Normal labor of about 9 hours. Very large caput succed. Primary respirations lusty. Temperature at birth, 101.2° . General condition very good at and soon after birth. On third day temperature 102.6° . Died on seventh day, with temperature 101.6° . *Two hours before death* breathing was labored and rapid: color of entire body dark blue; nystagmus; lobe of left ear dark purple, with little tumor apparently containing blood: two little blood tumors in right axilla: veins show prominently over entire body: stools dark green and a little bloody.

Case XXII.—II-para, 35 years. Male child of $9\frac{1}{2}$ pounds. Deformed pelvis, flattened from before backwards (true conjugate, three inches). After labor of 12 hours, head still movable above pelvic brim. McLane's forceps applied one hour later: then Tarnier's forceps used: both failed to deliver. The following description of a part of the opera-

tion is of interest: "Strong traction (with McLane's forceps) did little more than make the occiput dip slightly into the inlet. When the strongest traction possible was used, the blades slipped in spite of great compression. Tarnier's forceps were then applied, but failed in exactly the same way; used first as "axis-traction forceps" and then as ordinary forceps, but there was slipping, even when the windlass was screwed up tightly. While *very* strong traction was being made with "Tarnier" a sharp snap was heard as the blade slipped. Examination later showed that the blade at that instant had fractured the right parietal bone, making a triangular depression at the anterior inferior angle. *Podalic version* was then done. Birth of head difficult; accomplished by strong traction on shoulder and feet and heavy pressure on fundus. Head badly deformed and marked. Excoriations from forceps over right cheek, temple and forehead, also over left ear. Slight right facial paralysis. Slight nystagmus. Left side of head flattened. Deep asphyxia at birth; temperature, 101.2° . Biparietal diameter of head, 9.5 cm.; occipito-frontal circumference, 38.5 cm.; sub-occipito-bregmatic diameter, 10.5 cm. *Clinical notes*: At intervals during night before death child had general convulsions: nystagmus all the time: occasionally Cheyne-Stokes respiration: bled from left ear at times. Died on third day. Cause of death: fracture of skull and intracranial hæmorrhage.

Case XXIII.—I-para, 37 years, R. O. P. Female of $6\frac{1}{8}$ pounds. Occiput failed to rotate and was born posteriorly over the perinæum with the aid of *forceps*. Temperature at birth, 101° F.; temperature six hours later, 106.4° . Died on the third day, with symptoms of *intracranial hæmorrhage*.

Case XXIV.—VI-para, 38 years. Male child of $8\frac{1}{2}$ pounds. Deformed pelvis, measuring 7.75 cm. in true conjugate at brim. *High forceps* (Tarnier's axis traction) attempted; failure to bring head (L. O. A.) into pelvis. *Podalic version* then done. Great difficulty in extracting head—strong traction and great pressure necessary. Born deeply asphyxiated. Temperature at birth, 101.8° . Slight right facial paralysis. Lobe of right ear ecchymosed. General condition bad in spite of good development of child. *Clinical notes*: Slight nystagmus. Circulation and respiration poor. Several general convulsions, at

short intervals, about twenty-four hours after birth. Marked singultus for several hours. Rusty discharge from nose and mouth. Died twenty-nine hours after birth.

Case XXV.—XII-para, 32 years, L. O. A. Male of 8 pounds. *High-forceps* operation, lasting about thirty minutes. Forceps slipped some, owing to large head. Pretty strong traction necessary for delivery. *At birth*: Temperature, 102.4° F. Slight paralysis of left eyelid. Slight left facial paralysis. Excoriations in front of right ear and behind left ear. Lived nine hours. Had sharp spasmodic cry at intervals. Cause of death: fracture of skull with intracranial hæmorrhage.

Case XXVI.—I-para, 19 years, R. O. A. Female of 8 $\frac{5}{16}$ pounds. First stage, 19.15 hours; second stage, 1.30 hours. *Birth normal*. The next day two large hæmatomata were discovered—an oval one (2 x 1 inch) on posterior part of right parietal; a round one (2 x 2 inches) on left parietal. Temperature began to rise soon after birth, reaching as high as 107.8° F. Died on fourth day. On second day marked icterus developed. An hour before death breathing very rapid, jerky and irregular; heart action rapid and irregular. Left pupil wider than right. Respiration ceased before the heart stopped. *Autopsy*: Brain and meninges seemed normal; the hæmatomata contained each about $\frac{2}{3}$ ounce of blood: slight changes in viscera, as congestion, etc., apparently of no importance; careful examination to see if either hæmatoma connected with interior of skull; no such connection found.

Case XXVII.—I-para, 21 years, L. O. P., rotated to L. O. A. by aid of vectis, then *median forceps* operation. First stage, 13.15 hours; second stage, 3.20 hours. Male 8 $\frac{3}{16}$ pounds. Forceps on for 16 minutes. Pretty hard traction necessary. *At birth*, temperature 100.8° F.; 6 hours later, temperature 103.4° F. Marked left facial paralysis. On right cheek and under left ear excoriations from edge of forceps blades. Later, a large hæmatoma developed over right parietal bone. Bottle-fed. Died on tenth day with convulsions and gastro-intestinal trouble.

Case XXVIII.—I-para, 17 years. L. O. A. Female of 7 $\frac{9}{16}$ pounds. First stage, 37.40 hours; second stage, 3.16 hours. *High-forceps* operation. Tarnier's forceps applied to occiput and face of foetal head, which lay freely

movable above the brim. Strong traction required to bring head into pelvis. Operation lasted 40. minutes. Temperature at birth, 103.6° F. Left eyelid badly bruised. Slight excoriation on left side of forehead, another over right cheek and temple. On the eighth day a small granulating ulcer was left on the right zygoma, by sloughing, due to pressure. Bottle-fed. Did poorly. Died on eleventh day, weighing 5 pounds 7 $\frac{1}{2}$ ounces. *Autopsy*: Moderate effusion of blood over the left cerebral hemisphere; no fracture; also evidences of a gastro-enteritis.

STATISTICS FROM THE MATERNITY HOSPITAL
OF PHILADELPHIA. COMPILED BY MARY
A. SPERRY, M.D., RESIDENT OBSTETRICIAN.

Case I.—May 17, 1891. M., aged 12 days. Death from convulsions. First stage labor, 13.30 hours; second stage of labor, 1 hour 5 minutes. Normal but tedious labor. No autopsy.

Case II.—May 17, 1891. D., aged 12 days. Death from brain-pressure. First stage, 9 hours; second stage, 11.45 hours. Low-forceps, on account of uterine inertia; baby-facial paralysis; gradually diminished in weight. *Autopsy*: Brain normal; lungs normal.

Case III.—July 19, 1891. C., aged 7 days. First stage, 9.30 hours; second stage, 53 minutes. Easy labor. Infant was leaden color when born, and grew quite dark and mottled. Respiration difficult at times. *Autopsy*: Enormous dilatation of right auricle; patulous foramen ovale; lungs somewhat congested, especially the right. No other special condition found.

Case IV.—June 7, 1890. S., aged 36 hours. First stage, 36 hours; second stage, 15 hours. Instrumental delivery. Delay in labor due to large size of head. Child showed none of the normal signs of life, as crying, etc. Had a large spina bifida. *Autopsy*: Nothing unusual about the condition of the spina bifida. Heart and lungs normal. Left ureter constricted, with consequent enlargement and hydronephrosis of left kidney. Other organs normal. Head showed internal hydrocephalus.

Case V.—November 14, 1887. R., aged 7 days. First stage, 24 hours; second stage, 5.45 hours. Instrumental delivery. Large head and uterine inertia. Child's head cut by instruments. On fourth day some

oozing of blood. On fifth day an incision made and considerable bloody discharge. No pus. *Autopsy*: Fracture in left frontal bone. Effused blood under scalp, over entire left side of head.

Case VI.—December 23, 1887. E., aged 48 hours. Easy labor. Infant was cyanotic from the first. *Autopsy*: Almost complete absence of septum between auricles.

Case VII.—March 9, 1885. K., aged 5 days. First stage, 5 hours; second stage, 1 hour. With beginning labor, patient had an eclamptic convulsion and four more before birth of child. No autopsy.

Case VIII.—December 17, 1887. L., aged few days. Normal labor. Death caused by traumatic pneumonia. No autopsy.

Case IX.—June 1, 1890. M., aged 4 hours. Premature (between 6 and 7 months).

Case X.—March 2, 1888. O., aged $3\frac{1}{2}$ hours. First stage, 24 hours; second stage, 1 hour. Premature (about $7\frac{1}{2}$ months). Deeply cyanosed from the first. Ante-partum accidental hæmorrhage. One-third surface placenta covered with large clot closely adherent to its surface. No autopsy.

SOCIETY PROCEEDINGS.

New York Academy of Medicine—Section in Pædiatrics.

DR. WM. P. NORTHRUP, CHAIRMAN.

Meeting of April 14, 1892.

Dr. MARY PUTNAM JACOBI reported

A CASE OF PERSISTENT ULCER.

The patient was a little girl of four years. When admitted to the hospital there was an immense ulcer covering the entire anterior and external surfaces of the right leg, from the trochanter to the knee. It had been present for seventeen weeks and resulted from a burn, caused by matches, which had taken fire in the child's pocket. It was extensive at first, but had steadily increased in size. At the lower portion there had been some attempt at repair, but the cicatrix was not of good character. The child was so cross and irritable that the proper care had not been taken, and the surface was covered with a thick grayish slough. There was considerable fever, the temperature ranging during the first few days at 102° to 103° .

Thorough irrigation with a saturated solution of boracic acid was instituted, followed by the application of zinc ointment. Later a weak solution of bichloride of mercury was used for irrigating, followed by a powder of boracic and salicylic acids. Under this treatment the fever subsided and the surface of the ulcer assumed a healthy appearance. Skin-grafting was then begun with fair success. Sponge grafts were not successful. After four weeks' treatment the ulcer was $4\frac{1}{2} \times 3\frac{1}{2}$ inches.

Four of the grafts which had taken grew nicely and reached a diameter of one inch. Nevertheless, the ulcer steadily increased in size at the margins and became $6\frac{1}{2}$ inches long. At the same time it assumed the grayish look of a syphilitic ulcer. Under a dressing of mercurial ointment it again became healthy. At the same

time iodide of potash was administered internally, apparently with good results. Improvement, however, ceased, and the ulcer again assumed an unhealthy look. Syrup of the iodide of iron was given, and bichloride of mercury was added to the treatment. Improvement followed and continued uninterruptedly for six weeks, when the ulcer was completely closed, eight months having elapsed since the first injury.

Although the child showed no evidence whatever of syphilis, there was no permanent improvement until anti-syphilitic treatment was begun. The series of relapses was not arrested until the bichloride was added to the iodide.

The suggestion was made that the ulcer was not necessarily syphilitic, notwithstanding its marked improvement under mixed treatment. Iodide alone—the specific treatment for tertiary syphilis—failed. Mercury, in combination with the iron, may have acted as a tonic. It is quite possible that the obstinacy of the ulceration was due to the fact that the original ulcer was caused by matches—burns by phosphorous being very obstinate in character.

DR. S. K. BREMNER, Resident Physician of the New York Infant Asylum, presented

A MEMBRANOUS CAST OF A TRACHEA.

The patient from whom it had been expelled was a child 17 months of age. She had been suddenly seized with the symptoms of laryngeal diphtheria, and intubation was performed sixteen hours after the onset because of the extreme dyspnoea. A small (one-year) tube was used, and was at once coughed out, and shortly after a complete cast of the trachea. A three-year tube was then introduced,

with relief of all dyspnoea and cyanosis. The child slept quietly for four hours, and at the time of speaking, twelve hours after the operation, the symptoms were all improved.

DR. JOSEPH O'DWYER presented through the chairman

A CASE OF SUFFUSED SARCOMA OF THE KIDNEY.

The patient, a little girl, was 3 years and 10 months of age. She had been under observation but a short time, and little was known of the history. No constitutional symptoms had been observed, and there was no evident impairment of nutrition. As far as could be observed the growth caused no disturbance or discomfort.

Upon examination a large mass could be felt in the left side of the abdomen, just below the line of the umbilicus. When the child was upon its back it projected so as to be distinctly seen. Posteriorly it could be readily detected in the lumbar region, and upon pressing forward the whole mass could be made to move freely. It was hard and tense and somewhat nodular. It was not sensitive to pressure and seemed to cause no pain. The urine contained a little blood at times and broken granular and hyaline casts. It was unquestionably a kidney tumor, possibly a carcinoma. Sarcoma was most probable, however, at this age, for it is the most common kidney enlargement in young children.

A very similar tumor had recently been removed from a child two years old at the Babies' Hospital. The specimen had been presented at the Pathological Society the evening before by Dr. L. Emmett Holt, a member of this section. In that case a tumor had been discovered in the

right side five months before. There had been no definite symptoms and but slight cachexia. The diagnosis of sarcoma was confirmed by the operation. The tumor weighed two and one-half pounds. The operation was by lumbar incision. One week after operation the child was doing well. In the case under consideration but one result could be expected. The mass would certainly increase in size and the child would waste and die.

DR. JAMES E. KELLY read a paper entitled

THE PRACTITIONER'S ANATOMY OF THE
RESPIRATORY PASSAGES AS APPLIED
TO INTUBATION, LARYNGOTOMY,
TRACHEOTOMY (HIGH AND LOW), AND
BRONCHOTOMY, WITH DISSECTIONS,
CHARTS AND ILLUSTRATIONS.

It was the design of the author to apply his extensive experience and research as an anatomist to the needs of the general practitioner. He is an enthusiast for what he designates as rational anatomy, and gives especial prominence to the mechanical view of anatomy, as being of far more practical importance to the general physician than the vast amount of detail to which he is treated during his student life, without being supplied with a clue to the practical application. The fresh dissections, made especially for the occasion, were very handsome. They demonstrated the various points touched upon in the paper, both in children and adults, and added very materially to the interests of the paper.

The child varies but little in his anatomy from the adult. The thymus is the only structure that causes material modification in the region

under consideration. In operating low down in the pre-tracheal space in young children it causes serious obstruction. The shape is variable and subject to numerous anomalies. It usually consists of a body which extends entirely across the space between the sterno-mastoid muscles. Two processes pass upward in close apposition to the tracheal fascia and terminate within half an inch of the isthmus of the thyroid, to which they are attached by ligamentous bands. Hence but a limited portion of the trachea is uncovered and available for operation below the isthmus of the thyroid.

The anatomical conditions, however, seem to be little understood by many. It should be remembered that all the external operations upon the respiratory passages are performed between the hyoid bone and the sternum, in the mesial line, between the sterno-hyoid and sterno-thyroid muscles, low tracheotomy alone being done *below* the isthmus of the thyroid.

Below that point there are numerous important structures, but above there is not one. The space below the isthmus is divided into two distinct portions by three layers of fascia; above these they fuse to form a single layer of fascia. In the superficial space are the anterior and transverse jugular veins and a few small arteries. In the deep space are the left innominate and inferior thyroid veins and a venous plexus.

A dissection may be made in this region as neatly and almost as bloodlessly in the living subject as in the cadaver. This is especially true in young patients. The more closely an operation resembles a dissection the more satisfactory it is to the surgeon

and the safer for the patient. Hap-hazard surgery is a lottery in which fools gamble for their patients' lives.

Laryngotomy is an operation so undesirable that it merits but little consideration. It opens the larynx just below the rima glottidis, where the canal is narrowed into a thin wedge, the edge being anterior. The cartilage is rigid and of such low vitality that the injury resulting from the separation of the edges of the wound and the introduction of a tube is liable to be followed by necrosis. There being but little subcutaneous tissue an unsightly scar usually results, which lies so high that it cannot be concealed.

The hybrid operation — laryngo-tracheotomy—is unjustifiable, as it destroys the continuity of the cricoid cartilage, upon which the larynx largely depends for its shape.

Bronchotomy, for the removal of foreign bodies from the bronchi, has of late aroused considerable interest. From extensive investigation the author is inclined to believe that the operation is justifiable, and that there is no insuperable anatomical difficulty in the way.

Intubation requires but little anatomical knowledge. There are a few points, however, which are quite essential. There are numerous depressions and fossæ into which the point of the tube may be passed. The first on the glasso-epiglottic fossæ, just in front and at the sides of the glottis.

The glottis itself is situated in the midst of soft yielding tissues which are easily indented. A slight depression exists, just above the false vocal cords, on either side, which may readily catch the point of the tube. The lateral ventricles of the larynx

are, however, the source of most serious trouble. They lie upon either side, between the true and false cords. The true cords, especially in phonation and stridor, approach more closely to the mesial line than the false. A cavity with a concave floor is thus formed, which is very apt to entangle the end of the tube.

Just behind the glottis, and separated from it by the arytenoid bodies, is the lower portion of the pharynx, the most capacious snare set for the operator and the one into which he most frequently falls. This whole area in the infant is so small as to be readily covered with the tip of the index finger. The surface of the glottis is, moreover, very oblique to the pharynx, so that the tube easily glides backward into that cavity. Unless the true cords are accurately reached, the point of the tube is deflected into the capacious and yielding ventricle.

The intubation tube should, therefore, be held parallel with the mesial line of the body and with the point directed toward the inferior margin of the cricoid cartilage. This is accomplished by introducing the instrument into the mouth, with the handle over the bicuspid tooth and the point of the tube directed well forward. As the surface of the larynx does not look upward but well backward, the handle of the introducer should be elevated.

The epiglottis is sometimes so small and soft in young children as to be found with difficulty. If the finger is passed low into the pharynx until the resisting cricoid cartilage is felt, two movable nodules will be felt on its upper margin. Immediately above and in front of these, in the mesial line, is the epiglottis.

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ORIGINAL COMMUNICATIONS.

Endometritis—Considered Clinically.¹

BY CHARLES P. NOBLE, M.D.

IT is a healthful sign of the times that more attention is being paid in medical societies to the nature and treatment of endometritis. Endometritis is especially important in the category of diseases of women; because, almost without exception, it forms one stage in the progressive inflammatory or septic processes which eventuate in salpingitis, ovaritis and peritonitis. Therefore the curative treatment, or, better, the prevention, of endometritis constitutes a very large part of the prophylaxis of pelvic inflammation in women. If endometritis could be prevented, or could be cured early, before the inflammation has spread to the tubes, it is no exaggeration to say that the number of sick women would be reduced one-

third, and the number of those seriously sick would be reduced two-thirds. Surely, this is an object to insure the careful attention and efforts of every one who treats the diseases of women! Modern abdominal surgery offers every facility for the cure of the morbid conditions resulting from pelvic inflammation, and the methods of work have been so perfected that but little progress can be anticipated along the same lines. Progress in the future, I feel sure, lies in the field of preventive medicine, and, happily, the inflammatory diseases of women are clearly preventable.

VARIETIES OF ENDOMETRITIS.

Three varieties of endometritis can be distinguished, clinically: gonorrhœal, septic, and simple.

The status of gonorrhœal and post-

¹ Read before the Obstetrical Society of Philadelphia, May 5, 1892.

puerperal septic endometritis is so well defined that I shall make no comments upon them further than to say that in my experience the chronic endometritis which results from gonorrhœa is apt to be suppurative, while that resulting from puerperal sepsis is apt to be hæmorrhagic. Gonorrhœal endometritis, also, is much more difficult to cure, and extends more commonly to both Fallopian tubes. What I have called simple endometritis, for want of a better name, is not so easy to define. There can be no doubt, however, that virgins at times have endometritis, and that endocervicitis is not uncommon among them. It would be easy for me to adduce numerous illustrative cases. What the nature of the infection is in these cases is usually obscure. Undoubtedly it is due at times to the exanthemata. Bacteriological studies in these cases will be of interest.

CHRONIC CONGESTION OF THE UTERUS.

Whatever will cause congestion of the pelvis will bring about turgescence of the vessels of the uterus and endometrium, and induce hypersecretion from the endometrium, constituting uterine leucorrhœa. Among other causes may be mentioned constipation, sluggish portal circulation, feeble heart, pelvic tumors, etc. This condition of uterine congestion simulates endometritis, but is to be strictly differentiated from it, because treatment should be directed, not to the uterus, but to the morbid condition producing pelvic congestion.

It is reasonable to suppose that chronic congestion of the uterus is a predisposing cause of endometritis,

and that it acts by lessening the resistance of the endometrium to the attacks of germs present in the vagina. For example, it is well known that marked endometritis is a frequent concomitant of uterine fibroids; and this relation is too constant to be purely accidental.

RELATIONS OF ENDOMETRITIS TO CHRONIC PELVIC INFLAMMATION.

What is most to be feared in endometritis is that the inflammatory process will extend to the uterine appendages and peritonæum. Unquestionably, salpingitis and peritonitis are caused in this way almost without exception. The existence of salpingitis and peritonitis argues the pre-existence of endometritis. The exceptions occur in tubercular, and in post-puerperal cases. The *rule* holds good in the post-puerperal cases, but exceptionally puerperal peritonitis occurs without involvement of the tubes. I am aware that this statement will not meet with universal acceptance, but I have seen and operated upon women having, and having had, puerperal peritonitis in whom the tubes were healthy. The inflammation spread through the uterus to the peritonæum, or spread along the pelvic lymphatics and caused puerperal cellulitis with peritonitis. This fact explains why, in post-puerperal cases, recovery at times takes place after *apparently* serious salpingo-peritonitis. Such cases often get perfectly well, and the explanation is that the tube is not involved. These facts have a decided practical bearing on the questions of treatment in post-puerperal pelvic peritonitis.

Not only is it true that endometri-

tis is the cause of salpingitis and peritonitis, but it is also true that the pelvic congestion induced by these conditions, in turn, tends to aggravate the endometritis and prevent its cure.

SYMPTOMS.

Chronic endometritis is not accompanied usually by marked symptoms, other than those of leucorrhœa or uterine hæmorrhage. I have devoted special attention to this point in the study of cases and have found, when the endometritis is uncomplicated, that pelvic or reflex pains are not complained of. When subinvolution or metritis is present, pelvic discomfort is, at times, a symptom; but, in my experience, the pelvic pain, supposed to be due to endometritis, is almost always due to diseased uterine appendages, and the supposed reflex pains have had a more reasonable explanation as being neuralgia, due to co-existing anæmia. I wish to lay special stress upon the paucity of symptoms of uncomplicated endometritis, because of late the electricians have been teaching very curious doctrines concerning this matter, greatly exaggerating the local and constitutional symptoms of the disease.

FREQUENCY.

Chronic endometritis is a very common disease, but in my experience it is almost always complicated by salpingitis. This great tendency of the disease to spread to the tubes is the reason why it is important to institute curative treatment in the early stages. Some time ago I looked through my case-book and found that four per cent. only were cases of uncomplicated chronic endometritis.

TREATMENT, DILATATION AND CURETTING.

The fact that endometritis is due to infection requires that treatment should have as its object the destruction of the invading germs, and the removal of the results of the infection (the hypertrophied or hyperplastic mucous membrane), or that it assists the efforts of the tissues themselves in accomplishing these objects. I believe that these objects are best secured by dilatation and thorough curetting of the uterus under rigid antisepsis, together with subsequent applications of pure carbolic acid, or Churchill's tincture of iodine, to the endometrium. This line of treatment is the more requisite as the morbid state of the endometrium is the more marked. And in very chronic or well-marked cases, in which there is great thickening of the endometrium, with general involvement of the glands of the corpus or cervix, it may be necessary to repeat the process. In this connection I wish to emphasize the fact that this treatment is advised only for cases of uncomplicated endometritis. In the treatment of cases of uterine congestion, due to pelvic tumors, or to chronic pelvic inflammation, or to various morbid states of the general economy, it can do no good. In the treatment of cases of endometritis, complicated by salpingitis or pelvic peritonitis, this method of treatment is absolutely contra-indicated, because of its futility and because of its liability to induce acute salpingitis and peritonitis. In my judgment, the necessity for careful diagnosis in these cases cannot be too strongly insisted upon, in order that uncomplicated cases of endometritis may be separated from compli-

cated cases. In the one, dilatation and curetting, when properly done, is curative and safe; in the other, the procedure is futile and dangerous.

The grounds on which this method of treatment is advocated for well-marked cases of endometritis are several. First, experience. All who employ this treatment claim good results from it, and hold that it is safe, when properly done, in uncomplicated cases. Second, logic. In chronic endometritis the endometrium is infected and is thickened by inflammation. By using the curette vigorously most of the diseased membrane can be removed, and the occluded glandular ducts be opened, without entailing the formation of cicatricial tissue, owing to the peculiar anatomy of the membrane. And third, antisepsis and drainage are favored. Owing to the multitude of glands in the endometrium, it is probably impossible to disinfect it, hence antiseptic measures should be directed rather toward aiding the tissues (phagocytes) in their battle against the germs than toward active disinfection. Applications of tincture of iodine, or pure carbolic acid, after curetting, probably aid in disinfecting the endometrium, but I think that their utility depends rather upon their mild caustic action. Drainage, which is secured by dilating the cervix, is a distinct gain, as preventing the retention of the discharges.

Opposition to this method of treatment comes only from two sources. Certain surgeons claim that the treatment causes pus tubes, but they fail to report evidence to support their claims. In order to prove their position cases must be adduced in which the tubes were healthy, but in which

salpingitis developed immediately or shortly after dilatation and curetting done under anæsthesia and with rigid asepsis. So far as I know, this has not been done. The point that is lacking is, knowledge of the state of the tubes before curetting. In the absence of this knowledge it is more rational to suppose that salpingitis existed prior to the curetting, and that it was aggravated by it. The electricians also oppose the curette, advocating instead the galvano-cauterization of the endometrium. There is good reason to believe that galvano-cauterization will cure endometritis, but the treatment is tedious and painful, and there is a positive danger of causing atresia of the canal at times, and more frequently of blocking up the mouths of the utricular glands by the cauterizing process.

Dilatation and curetting is an operation which requires the same care to achieve good results which is given to other operations on the uterus. The patient's bowels should be well cleared out, and her skin be put in good condition by the bath. Anæsthesia is indispensable; without it the vagina cannot be well scrubbed, nor can the operation proper be thoroughly done. The vagina should be carefully scrubbed with soap and water, then irrigated and douched with sublimate solution. The cervix is now exposed by means of the perineal retractor, seized with a bullet forceps, gently and moderately dilated with Goodell's dilators, and then the entire canal of the uterus is thoroughly curetted with the sharp curette. The *débris* is now washed away, an application of pure carbolic acid or of Churchill's tr. iodine made, and the uterine cavity is lightly packed with

gauze. The gauze is removed the following day, and serves to bring away any *débris* which has remained in the uterus. I have not used it to prevent hæmorrhage, for I have had none, nor do I use it to dilate the uterus, for that has been done already.

The patient should remain in bed at least three days, and be confined to her room for a week, being on simple food, and the bowels kept open.

In my hands, cases of uncomplicated endometritis, treated in this way, have been cured, or much improved, and in no case has salpingitis been produced. Such being the case I am unable to comprehend the grounds on which the process is opposed, and am at a loss to understand how those who oppose the curette cure their cases of villous endometritis with metrorrhagia, and their cases of endometritis, with well-marked glandular involvement with purulent discharge.

GENERAL TREATMENT,

both hygienic and medicinal, is of the highest importance in the cure of endometritis. Each patient should be carefully studied, proper hygienic directions given, and any special indications met by appropriate remedies. Especially should the bowels be kept regular.

VAGINAL MEDICATION,

painting the vault of the vagina with Churchill's tr. iodine, the use of the glycerine tampon, and the hot-water douche is always of value, and in mild cases will effect a cure. This treatment is especially effectual when the endometritis is *kept up* by pelvic congestion due to subinvolution following labor. Undoubtedly it is more effectual for the cure of pelvic congestion than for the cure of endometritis. The

advantages are that it is perfectly safe and that it is painless. All cases in which there is a reasonable doubt concerning the existence of salpingitis should be treated by this method until the doubt is cleared up. Tender appendages, tender masses lateral to the uterus, are due at times to ovaritis and pelvic hyperæsthesia and not to salpingitis. Hence, in many cases the practical man will use this treatment until the diagnosis is completely made. It can do no harm, and does great good, especially by improving the pelvic circulation. Its good effect in endometritis can be rationally explained only upon the supposition that by improving the circulation of the uterus it assists the tissues in bringing about an arrest of the inflammatory process.

APPLICATIONS TO THE ENDOMETRIUM WITHOUT DILATATION

should be divided into applications below the internal os and applications to the entire uterine canal. Non-caustic applications to the cervical canal are unobjectionable, and are indicated in mild cases of cervical endometritis. When the Nabothian follicles are markedly involved, the curette should be used. The value of applications to the entire uterine canal, except after the use of the dilator and curette, is very questionable. The procedure is quite painful, and induces, at times, severe uterine colic. When the applicator is used, most of the medicament is squeezed out of the cotton in the cervix, so that but little reaches the body of the uterus. This method of treatment was much used twenty years ago, and the result of the experience of those using it was that it was ineffectual, painful and dangerous. (Thomas, Emmet, Good-

ell.) The accidents (peritonitis) encountered, presumably, were due to the fact that complicated cases were treated. The peritonitis was ascribed to the entrance of fluid into the peritonæum through the Fallopian tubes—sometimes forcibly injected by the syringe—sometimes driven into the tubes by the spasm of the uterus. More probably it was due to traction and manipulation of tubes containing septic material. It seems to me that the evidence upon these points is conclusive, and that applications to the endometrium, through the undilated cervix, should be considered painful and futile. If the uterine syringe is used through the undilated cervix, there is positive danger of forcing the medicament into the tubes. Personally, I find no need for the uterine syringe under any circumstances, and feel that it should be consigned to the medical museum. For making applications to the undilated uterine canal the experience of the past has shown it to be dangerous; and, for making applications to the dilated canal, it is not so useful as the cotton-wrapped applicator. The applicator can be made to come in contact with every point of the canal, and a thorough, and if necessary a prolonged, application of a medicament can be made; whereas, with the syringe the medicine is injected and immediately runs out, and it is largely a matter of chance as to what part of the uterine canal is treated.

THE INTRAUTERINE GAUZE PACK has become a popular method of treatment of late years. This method is a development of the method of Vulliet of dilating the uterus by packing it with cotton tampons. It has been my practice always to tampon the uterus

lightly with gauze after curetting. The gauze is removed the following day and serves to bring away any *débris* which has remained in the uterus. I have had but little experience with the prolonged and repeated use of the gauze pack, and hence speak of it with diffidence. In one case of gonorrhœal endometritis, of three years' standing, and with marked glandular involvement, which I curetted, I removed the gauze on the second day, replaced it, and removed it the second time on the fifth day. Somewhat to my surprise, when the gauze was removed, at least a half ounce of sanious mucus followed it. In this case it did not act as a drain, but as a hindrance to drainage. In the future I shall feel inclined to remove the gauze daily. In office practice, in cases seen after curetting, I have found it very painful to introduce the packing; and it has occurred to me that the Philadelphia uterus is not as tolerant as that of New York, and of Continental Europe.

As my experience grows, I feel more and more convinced that the fewer applications that are made to the endometrium above the internal os, in office practice, the better it is for the patients.

For several weeks after dilatation and curetting, and in cases having a very patulous uterine canal, an exception can be made. But as soon as the effect of the dilatation disappears it is best to recur to vaginal treatment, and if after a reasonable time recovery does not ensue, it is better to repeat the process, rather than to persist with intrauterine applications.

TREATMENT OF COMPLICATED CASES.

In no disease are complications or

extensions of the disease more common, and in the individual case complications must be recognized and the treatment varied to meet the indications. Pelvic congestion, subinvolution, metritis, displacement of the uterus, inflammation of the appendages and peritonitis are the most common complications. The cause of the pelvic congestion must be sought for and appropriate treatment instituted, as diet and laxatives for constipation, exercise for sluggish portal circulation, strychnia and digitalis for a feeble heart, and strychnia and small doses of ergot for atonic pelvic vessels. Subinvolution is best treated by the boroglyceride tampon and the hot douche locally, small doses of ergot, tonics and reconstructives internally, together with graduated exercise out of doors. For metritis the same treatment is indicated, and, in addition, the local abstraction of blood (two to four ounces weekly) and the repair of the cervix, if lacerated. Displacement of the uterus should be corrected. Where the tubes, ovaries and peritonæum are involved the inflammation of these structures is the disease, and the endometritis is the complication.

All operations upon the uterus and intrauterine applications are contra-indicated where salpingo-peritonitis exists. Pelvic local treatment should be restricted to vaginal applications. Whether the uterine appendages should be removed depends upon their condition. If adherent and persistently painful, in spite of treatment, or if the tubes be occluded and retention cysts have formed, or if pus be present, the appendages should be removed. If, after recovery from the operation, the endometritis persists

and causes distress, the uterus should be dilated, thoroughly curetted, and cauterized with saturated solution of chloride of zinc. As the function of the uterus is in abeyance it is immaterial if its canal becomes obliterated.

PROPHYLAXIS.

From the nature of the pathogeny of the disease it follows that its prevention depends upon a strict personal hygiene among women, especially strict cleanliness of the genitalia; the early treatment of vaginitis when due to indifferent irritants or to accidental infection with germs, other than the gonococcus; and upon the prevention of gonorrhœa and of sepsis in child-bed.

CONCLUSIONS.

Endometritis is due to infection. All causes of pelvic congestion act as predisposing causes of endometritis, and later tend to aggravate and perpetuate the disease. The rational treatment of endometritis consists in the employment of those agents which lessen pelvic congestion, which assist the tissues in combating the invading germs, and in getting rid of the results of their activity.

In typical cases of uncomplicated endometritis, dilatation and curetting of the uterus, under anæsthesia, and with full antisepsis, with subsequent applications of Churchill's tincture of iodine, or pure carbolic acid, best fulfill the indications. The general condition of each patient should be studied, and each indication should be met by appropriate hygienic or medicinal treatment.

The use of the hot douche, painting the vault of the vagina and the cervix with tincture of iodine, and the use of the glycerine tampon is valu-

able in all cases, and curative in mild cases. This plan of treatment should be employed always so long as there is any suspicion concerning the existence of salpingitis.

Intrauterine applications, by means of the cotton-wrapped applicator, are valuable and safe when the uterine canal is patulous, but are painful and of little value if that canal is constricted. Intrauterine medication should follow curetting, not precede it; and because of the pain it causes it should be employed only when strictly necessary.

Careful, thorough diagnosis is very

necessary. All complications should receive appropriate treatment. The most common complication—really, an extension of the disease—is inflammation of the uterine appendages. Where this exists, it is of such gravity that it should be considered the disease, and the endometritis a complication. During the existence of tubo-ovarian inflammation operations upon the uterus and intrauterine medication are contraindicated. Should the uterine appendages be removed, and the endometritis persist, it should be treated by curetting and cauterization.

A Plea for Early Surgical Treatment of Cancer of the Uterus. Complications Met With.¹

BY A. H. CORDIER, M.D.,
KANSAS CITY, MO.

IN accepting the kind invitation of your President and Secretary to write a paper for this society, I feel that my first duty is to thank you very kindly for the honor you have conferred upon me and to express my high appreciation of the good work you are doing by the many scientific and practical papers presented here from time to time. I shall not expect to tell the members of this society anything new, and I trust you will thoroughly discuss this important subject, that your deductions, from personal experience, may appear in the society's transactions, and the good work you are doing be thereby dis-

tributed all over this country. I am aware that total extirpation of the uterus, for malignant growths, is an old operation, lately revived by Czerny, in 1879. To-day the justifiableness of the operation is established by favorable reports from the leading gynecologists of the world.

Taking Martin's statistics, with his 11 deaths in 66 cases, with 70 per cent. of cures in the cases recovering from the immediate effects of the operation of total extirpation, and comparing them with an equal number of cases treated by conservative and temporizing methods, the evidence is overwhelmingly in favor of the more radical procedure.

If a patient, with a small epithelioma

¹ Read by invitation before the Obstetrical Society of Philadelphia, April, 1892.

of the lip, should consult the general surgeon, the first advice would be to have the growth early and completely removed. I can see no just reason or excuse why the gynæcologist should turn his back and shirk, so to speak, his duty, when these poor sufferers with cancer apply to them for advice and treatment. Why waste months of valuable time, robbing the unfortunate victims of the only chance for their lives, when the golden opportunities are diminishing with each day spent in procrastination and tinkering?

The chances of only a partial extirpation of the diseased structures, and the immediate danger from our operative procedure, are increased with each day of waiting, as the disease, like time and tide, waits for no man. The complications are hard to deal with, just in proportion to the extension of the disease to neighboring structures, which is an inevitable result of delay in adopting intelligent surgery.

The rectum and bladder—although not often involved by the disease, except in rapidly spreading and neglected cases—are more liable to be injured during an operation, if the adhesions, caused by secondary inflammatory extension, are firm. I desire to call attention to the frequency of tubal and ovarian disease, complicating cancer of the cervix and body of the uterus, and insist on the necessity, if we would reduce our mortality, of completing our work. What surgeon, conscious of his duty (no other should undertake to operate), would think of amputating in the middle of the humerus to cure an osteomyelitis, when the indications, as they generally do, pointed to the fact that the disease

extended to the head of the bone? Amputate at the shoulder-joint, or let the patient die unassisted. Do not disgrace surgery by doing poorer work than is done by the slow process of nature herself.

Do not wait for the sequestered appendages to have an involucre formed about them, as septic peritonitis rarely leaves a cloaca through which the patient can escape death, and the surgeon a high rate of mortality.

A complication of which there is very little written in any books to which I have had access, is disease of the tubes and ovaries. Each case should be examined carefully, to detect the presence of, as a complication, a pyosalpinx, ovarian abscess or cyst, that the diseased appendages may be completely and thoroughly removed. These complications are far more frequent than most operators, with whom I have talked, suppose. I see no reason why the appendages should not become diseased secondarily by an extension of the primary lesion. Dr. Tait believes that cancer of the uterus begins uniformly in the endometrium. The Fallopian tubes are truly a part of the uterus. Barnes' statistics of 126 cases of vaginal amputation of the cervix show that nine died from the operation; 200 cases are reported by one operator, with one death from chloroform. It must be remembered that where vaginal amputation is performed the disease is in its incipiency. Yet you have no means of telling its limits. While the appearances may indicate only a limited invasion of the cervix, the disease may have extended into the body of the uterus, and to amputate the cervix in a case of this kind

would be just as bad surgery as to undertake to enucleate an osteo-sarcoma of the tibia and to predict a cure from this imperfect and illy-advised surgical procedure—just as logical. You would expect an early return of the disease and a rapid extension of its ravages to the surrounding structures, an untimely death of your patient, and the propriety of your surgical interference would be very seriously questioned by the friends of the unfortunate sufferer, and even your own conscience would hold before your eyes a picture of your imperfect work, labelled “An opprobrium to surgery.”

Realizing with what frequency tubal disease is present in these cases, and being aware of the fact that to do a surgical operation on the cervix while this state of affairs exists, means an aggravation of the already existing tubal disease—with these truths before us, we should never, under any circumstances, resort to escharotics or cervical amputation in carcinomatous affections, but perform the more intelligent and radical operation of total extirpation of the uterus and its appendages, and thereby save many lives and hold surgery above the reproach which inevitably follows incomplete operations.

The following table, taken from Martin's work translated by Cushing, shows a larger percentage of deaths than that of the majority of our American operators :

	Cases.	Deaths.	Per cent.
Fritsch	60	7	10
Leopold	42	4	9
Olshausen	47	12	25
Schröder	74	12	17
Staudel	22	1	5
A. Martin	66	11	19

I will briefly outline the various

steps in the operation as performed by Dr. Joseph Price, whose record leads the world in vaginal as well as superpubic hysterectomy, he having performed forty-nine vaginal hysterectomies, with only one death. Let me add just here the statement that his marvellous results are not only due to this special method of performing the operation of vaginal hysterectomy, but to the thoroughness with which it is carried out as well. Your patient is prepared as for an ordinary “section,” with the addition of a thorough vaginal douching the night before and at the time of the operation. The bladder is emptied an hour before the patient is placed on the table, which is not done until she is etherized. There is less danger if comparatively empty. Enough urine will be secreted within the hour prior to and during the operation to act as your guide as to whether the bladder has been injured. Place your patient in the lithotomy position, with the nates well over the edge of the table. You need two assistants besides the nurses. The assistants handle the sponges, speculum, volsella, etc., as the operator directs. The operator, seated, washes the external parts, and thoroughly irrigates the vagina with a 1 to 1,000 bichloride solution, seizes the cervix, if there remains enough sound structure to hold on to with the volsella, and draws it down to the vulvar orifice, or as far as it is possible, with moderate force. If there is much sloughing of the tissues the major portion of the diseased mass is scraped away by the curette, and the vagina irrigated again before proceeding farther. The operator, taking a short-bladed knife or a pair of scissors, slightly curved on the flat, makes

a complete circuit of the cervix, as close to the vaginal vault and as far away from the diseased structure as it is possible to go with safety to the surrounding structures, as the bladder, ureter, rectum or uterine arteries.

The posterior vaginal vault is now opened by a dissection with the index finger, and the peritonæum opened with blunt scissors. Having entered the peritoneal cavity, sweep the finger from side to side and find out the relation of the various structures. You now make your dissection very carefully between the bladder and the uterus, having opened the peritonæum anteriorly and posteriorly, using the index finger as a guide, apply the large clamp forceps to the broad ligament, keeping close to the uterus lest you include the ureter, and divide the structures along the uterine face of the forceps to within half an inch of its point. If the tube and ovarian ligament are not included in the grasp of the forceps, and you are going to leave them in, guide a second forceps over these structures and divide them, trusting the clasped forceps to the assistant at the side of the patient corresponding to the structures divided, and cautioning him to make no traction, but to simply hold the instruments parallel, thus giving the operator more room to work while treating the other side in a like manner. After all the structures are severed, the uterus is usually delivered with very little difficulty. If much trouble is experienced at this stage, the uterus may be delivered quickly by using a miniature pair of obstetrical forceps. If the uterus is very large it is the wiser procedure to perform the suprapubic operation of total extirpation. After delivering the uterus the vagina

is irrigated and packed with gauze, to prevent friction and to hold the handles parallel. This gauze acts as a drain, and these cases always drain profusely—thanks to nature's lesson taught here in drainage. The forceps are allowed to remain on from thirty-six to forty-eight hours; at the expiration of this time the forceps are *unclamped* but *not removed*; by this precaution you have them in position in case there is manifested a tendency to hæmorrhage (an accident of rare occurrence at this period); and by a delay of a few hours after unlocking the handles a softening process takes place in the crushed and surrounding tissues, allowing the instruments to be removed with ease and very little pain to the patient. If it is necessary to remove the appendages (and I believe this should be done in every vaginal hysterectomy as a precautionary measure, the risk of leaving in diseased tubes will be thus avoided and the pain and uneasiness produced by ovulation gotten rid of), after applying the first forceps as described above, the second one is placed so as to just take in the round ligament, and the broad ligament is pulled down so that the bite of the forceps takes in the structures to the infundibulo-pelvic ligament; the tube and ovary are now easily (sometimes not so easily) removed along with the uterus.

I assisted Dr. Joseph Price a few weeks since in a vaginal hysterectomy which so beautifully illustrated the complications one must be prepared to cope with, that I cannot better tell the story than by giving a short report of this case. The lady, a noted actress, about 35 years of age, nulliparous, a few months ago presented

the rational and physical history of a rapidly advancing malignant disease of the cervix.

The doctor removed the uterus, at the same time a cystoma of the right ovary and a double pyosalpinx. The dilated, thickened and elongated tube on the left side measured about eight inches, and communicated with an ovarian abscess the size of a billiard ball. All these complications were dealt with by a thorough removal through the vagina. The patient recovered rapidly from the operation, and is now apparently cured.

I here present a photograph of a specimen removed by the same operator, showing a double pyosalpinx and ovarian abscess (photo I). I have also here a photograph of a specimen removed by myself, post-mortem, showing a sarcoma of both ovaries, complicating malignant disease of the cervix. This specimen is a rare one, and could not have been removed by the vaginal method.

I saw a patient, to-day, on whom I shall do a vaginal hysterectomy next week. She has this history: she is 34 years old, mother of three children, the last child delivered nine years ago. Instrumental delivery; laceration of cervix at that time; has gone the round of iodine, eucalyptol, boryglyceride, etc., etc. Gives a history of tubal disease for last five years; had *one ovary* removed three months ago. Is now bedridden. Examina-

tion reveals a bilateral lacerated cervix, with well-marked malignant disease of both lips. On either side are diseased and distended tubes filled with pus—all the complications making the operation extremely difficult and hazardous. A failure gives little disappointment, a success much hope of a permanent cure.

I desire to submit to you for discussion the following deductions:

(1) The justifiableness of early hysterectomy in these cases is unquestionable.

(2) If the operation is performed early many cases are permanently cured.

(3) Tubal and ovarian diseases are frequent complications.

(4) In every hysterectomy for malignancy the appendages should be removed also.

(5) All escharotics, caustics and tinkering should be condemned in treating these cases; they never cure, but often make complications.

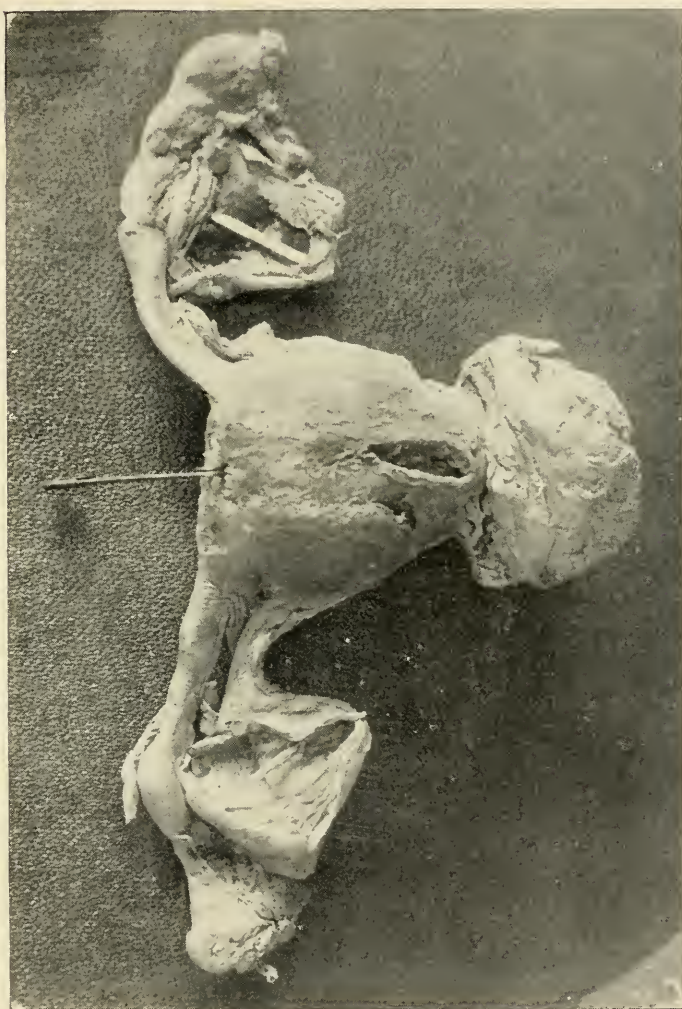
(6) Complete extirpation, as compared to amputation of the cervix, is attended with low death-rate and a greater percentage of cures.

(7) The operation, when performed as described above, gives the lowest mortality.

(8) A few cases can be treated only by abdominal total extirpation, owing to the size of the uterus and the presence of solid tumors of the ovaries.

PLATE I.

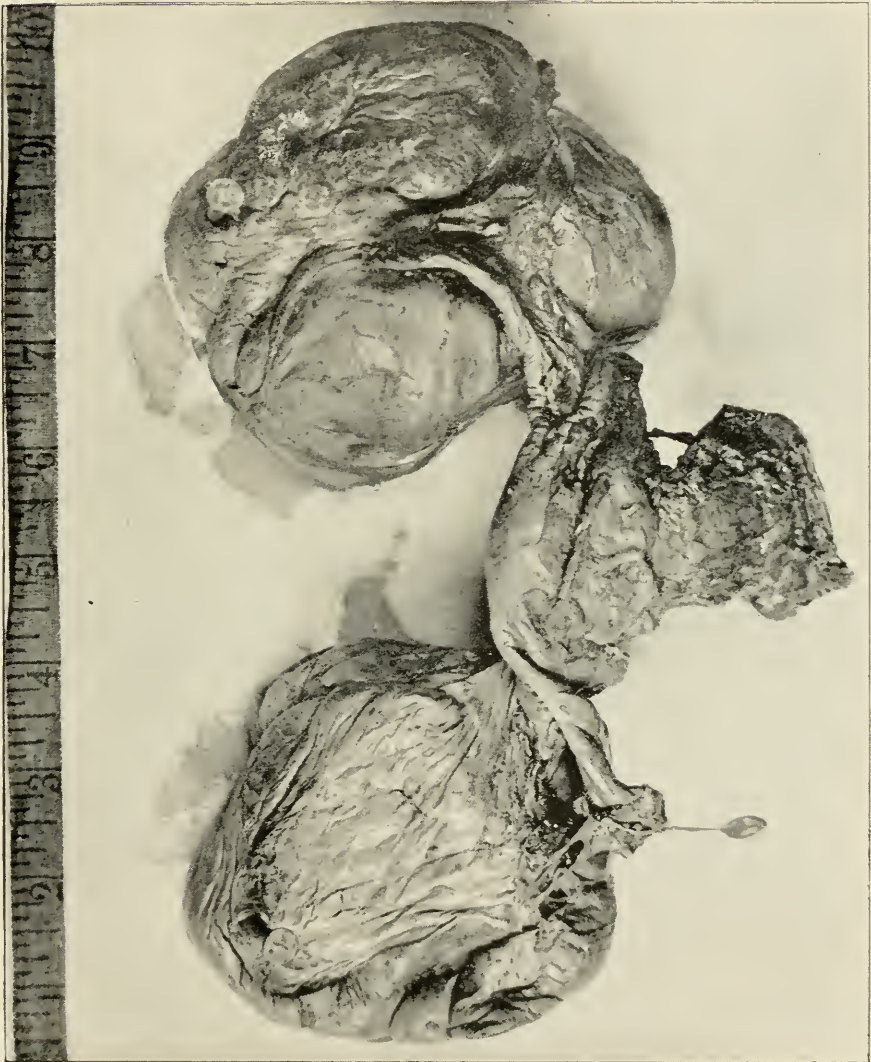
FIG. 1.



DOUBLE PYOSALPINX AND OVARIAN ABSCESS.

PLATE II.

FIG. 2.



SARCOMA OF BOTH OVARIES.

Notes of Some Fibroid Tumors Treated by Electricity.¹

BY G. BETTON MASSEY, M.D.

THE following fresh cases of electrical work in fibroid growths of the uterus are brought to our notice because of their intrinsically interesting character, and because also of the fact that they have each been seen by some other member of the profession than myself. Several of these gentlemen promised to be present to-night, and I hope that they will be able to add the weight of their own observations to mine. The first five cases, which are the only ones to be reported in full, have all had the test of time added at the end of treatment, periods of from three years to three months having elapsed since its termination. The results are all remote, therefore, and are necessarily more valuable as testimony than that of the "wet specimen" reports of cases but recently under treatment that I will append to this paper.

CASE I. *An intramural solid growth about the size of an adult head that had been causing alarming hæmorrhages for years received vigorous treatment for eight weeks; result: lessening of flow during the next six months, at the end of which time a portion of the growth came away, followed by restoration of normal menstruation and health.*—This lady, a physician's wife, aged 48 years, was referred to me, May 13, 1889, by Dr. Goodell, who will doubtless remember the case well. The tumor was very large, extending much above the navel,

was firm and smooth, and evidently a single development in the anterior wall of the uterus, the cavity of the latter being spread out over the posterior aspect of the growth, somewhat in shape and size like the cavity in a man's mitten. With a constant tendency toward hæmorrhage and a still greater fear of it, her strength was so reduced that she was unable to leave her room without being carried. She was admitted into my private sanatorium, and during a period of eight weeks received twenty-two applications of the positive pole to the cavity, eighteen of which were between 200 and 250 milliampères. She then returned to her home in a distant State, remaining free from hæmorrhages and with a reduced menstruation for six months, at the end of which time the tumor, or a portion of it, came away as a slough. At the time of the application I was under the impression that the capsule that presented in the cavity was thin; this portion was doubtless absorbed, releasing the tumor. Recent information received states that the lady is well and menstruating normally.

CASE II. *A small intramural growth that had caused intense menorrhspasms for years, with menorrhagia, received intrauterine treatment for about three months, with moderate currents, resulting in complete symptomatic restoration of health.*—Mrs. E. K., aged 44 years, was referred to me by Dr. Wharton Sinkler, on the 25th of April, 1890. She had a history of free and

¹ Read before the Philadelphia County Medical Society, May 11, 1892.

painful menstruation since puberty, the periods being of the three-week type. At the age of 32—twelve years ago—the menorrhspasms became worse and she began to swell. She saw Dr. Atlee, of this city, who discovered a lump to the right of the uterus and instituted medicinal treatment for it. The pain became intense, necessitating the attendance of a physician every three weeks and the administration of powerful anodynes to relieve it. At this time she came under the care of Dr. Sinkler, in consultation with whom she was also seen by Dr. Goodell, the latter employing dilatation and discovering a tumor the size of an orange. In spite of this dilatation, and of vigorous medical treatment, the beginning of each period was ushered in by cramps and severe pain, that generally lasted from six to twelve hours before the appearance of the flow. The latter continued about two weeks, the first week being free, and was followed by only a week of partial intermission before the pain of another period appeared. When first seen by me she stated that she was getting distinctly worse, as many as four opium suppositories, added to a hypodermic, failing to give relief. She had begun to have a continuous pain in the side.

Owing to the thickness of the abdominal wall the true size of the growth was made out with difficulty, though there could be no question of its existence. Through the courtesy of Dr. Sinkler the case was brought under the notice of a committee of this Society, that has been appointed to inquire into the value of electricity in fibroid tumors, and was examined by Drs. Parvin, Montgomery, Baldy and myself of the committee before

treatment was begun. Dr. Parvin was satisfied of the existence of a fibroid, but Drs. Montgomery and Baldy reserved decision until an anæsthetic was given, owing to the thickness of the abdominal walls. The following description was agreed upon as a conjoint opinion: A general enlargement of the uterus exists, with projections to both sides; depth of cavity three and three-quarter inches.

April 27, 1890. Dr. Sinkler objecting to the administration of an anæsthetic as unnecessary, Dr. Montgomery examined the patient again without ether, and expressed his willingness to accept the case as one of fibroid tumor. Treatment was begun by the insertion of a flexible electrode and the application of 35 milliampères, positive, to the cavity, after which the patient returned to her home in the suburbs. On the way out she was attacked with cramps so severely as to require medical attendance, demonstrating the excessive hyperæsthesia of the cavity. A hastened menstruation followed, and at its termination it was decided that the hyperæsthesia was too great for office treatment, and she was admitted to my ward at the Howard Hospital, where special facilities are afforded for the prosecution of electrical treatment at the bedside. Even with these facilities, the treatment was accompanied by pain and hæmorrhage for the first few weeks, after which she was able to return to office treatment. The June menstruation was prolonged, but showed a diminution of pain, and she was enabled to receive 65 milliampères with comparative comfort. The last application was on July 11th, and on the 22d she stated that the menstruation for that month had lasted one week

only, that there was no pain, and that no narcotics had been used for the first time in many years. This terminated the treatment sought by her, with the exception of one application in October and one in November of the same year. The August menstruation was normal in duration, without prodromes, and with but little pain during flow. In September she felt like a young girl, but later had a period that lasted two weeks without much pain. She had also some pain in October, but not enough to bring her back for treatment. Six months later—April 18, 1891—she returned by request, stating that she regarded herself as well, that her periods were natural, five days in duration, and without pain. In February, 1892, the same statements were made to the members of the committee. The last examination was made on the 9th of the present month, nearly two years after the cessation of the treatment, and the permanence of the symptomatic cure verified. The uterus remains, nevertheless, still enlarged beyond the usual size.

CASE III.—*Intramural and subperitoneal multinodular growth extending to within two inches of the umbilicus and causing retention of urine; treatment by buried vaginal puncture, resulting in relief of all symptoms and reduction of upper limit of growth to four and a half inches below umbilicus.*—This lady was sent to me by Dr. Theodore G. Davis of Bridgeton, N. J. She was fifty years old, and had been suffering from profuse and irregular menstruation for some time, but the tumor was not discovered until Dr. Davis found it to be the cause of the retention of urine. When admitted to the sanatorium, October 17, 1890, the

uterus was found to be pressed against the pubes by a hard growth, attached by a broad pedicle to its posterior aspect, and extending from the level of the os to within two inches of the umbilicus. The other nodule was the size of a walnut and freely movable. The cavity was over three inches in depth. As the bulk of the tumor was subperitonæal and the lower end was easily accessible through the posterior vaginal vault, the treatment was by buried vaginal puncture, the needle being inserted from one to one and a quarter inches beyond the vaginal surface. The punctures were all negative, and varied in strength from 100 to 150 millampères, no anæsthetics being required. In all, ten punctures were made, a diminution in size showing after the second. When this lady was last seen, March 2, 1891, the highest point was four and a half inches below the navel—a reduction of two and a half inches in vertical diameter.

I had hoped that Dr. Davis would have been present to give us the present condition of this patient, as I have not seen her myself for more than a year, but in lieu of his presence he has sent me the following letter:

BRIDGETON, N. J., May 10, 1892.

DR. MASSEY.

DEAR SIR: I had hoped to be able to be present at your meeting on Wednesday night, and will if I can, but I have so many obstetric engagements due just now, that I doubt my ability to do so.

Regarding Mrs. J., I saw her this afternoon, but did not examine her, as she is coming up to see you next week. She has, once in three or four months, a discharge of blood, but she has no pain or bladder troubles; is

getting fat, and says she feels no hard lump in the abdomen. She adds: "I should have been up to see Dr. Massey ere this if I had not been getting along so well." If I can come I will telegraph you.

Very truly,

(Signed) THEODORE G. DAVIS.

NOTE.—The patient was examined by me on May 17th, six days after the reading of the paper, and her statement as to an inability to detect the tumor by palpation verified. No growth whatever could be detected by external examination. The bimanual showed only a slight roughness at the fundus.

CASE IV.—*An irregular multinodular growth, extending one and a half inches above the umbilicus and larger than an adult head, disappears entirely under intrauterine treatment, leaving a nodule the size of a small cherry on the posterior wall of the uterus.*—The lady in whose case this gratifying result has occurred is a widow, 46 years of age. She was first seen by me January 31, 1891, having been kindly referred by Dr. G. H. Whitcomb, of Greenwich, N. Y. The growth was at that time one and a half inches below the umbilicus, hard, knotty and freely movable in the abdominal cavity, in which it mainly lay. In size it was about seven by five inches. Pelvic examination showed it to be continuous with the uterus, the cavity being in the anterior portion, distorted and difficult of penetration; large projections extended to the right and left posteriorly. The patient stated that the growth had been discovered but three years, though preceded by the intense menorrhspasms from which she still suffered. One year before seeing me she had been placed under electrical treatment by Dr. Whitcomb, whose intelligent application of the Apostoli

method resulted in great relief of pain and a reduction of size from one and a half inches above the umbilicus to the same distance below that point. The treatment had been discontinued for some time before the case first came under my observation, but since her removal to Philadelphia there had been a recurrence of menstrual pain and swelling of the tumor, and she was also suffering from an œdematous swelling of the right leg. The examination showed that the posterior projection, which was of a somewhat recent appearance, probably caused the œdema by mechanically interfering with the venous circulation of the leg.

She was placed on vaginal alterative applications of 150 milliampères, and subsequently on a weaker intrauterine method. In three weeks' time she was able to lay aside the elastic stocking that she had been wearing. During the following month, however, a typical attack of the prevailing influenza epidemic put her back somewhat, and I was afforded an opportunity of witnessing an example of the intense menorrhspasms with which she had been afflicted. In intensity the pain was much like that in Case II, but there was also an œdema of the tumor, increasing its size most perceptibly. The treatment was, nevertheless, persisted in, and I had the satisfaction, a month later, of noting a very great reduction. In August the reduction had so far progressed that Dr. Whitcomb, who had an opportunity of seeing her, reported its disappearance, with the exception of the small projection that can still be found.

The case was examined recently by the writer, and but for an abnormal hardness of texture and the projec-

tion from its posterior aspect, the uterus could not be distinguished from a perfectly normal one. The enormous, irregularly lobulated growth had disappeared, making the sixth instance of complete disappearance by electrically-induced atrophy in my experience. The patient menstruates normally, five days at a time, and without pain, showing that the result is not attributable to the menopause. She is now in this city, and I could easily arrange an opportunity for anyone to verify the statements made as to her condition.

CASE V.—*Intramural growth reaching the umbilicus and complicated by hæmorrhagic endometritis and ovaritis; reduction to size of small lemon under treatment; subsequent attack of perimetritis.*—This patient, a nullipara of fifty-two, was referred to me by Dr. Goodell and by Dr. A. W. Knox, the latter of Raleigh, N. C. The tumor was discovered four years before admission to the Sanatorium, and she had suffered much from menorrhagia and menorrhspasms. For one year there had been a continuous dribble. Six months before admission there had been a sharp attack of perimetric trouble, the remains of which, in the shape of tenderness, still troubled her. An examination showed an enlargement of the anterior wall of the uterus that extended to the umbilicus, flattened from before backward. The cavity was three inches in depth and fully two inches wide at the fundus. In spite of the threatening condition of the left ovary intrauterine treatment was begun at once, and was very well borne. Between the date of admission, April 4, 1891, to May 27, nine applications were made, varying in strength from 25 to 100 milliam-

pères, at which time the tumor had receded two inches lower at its highest point. When about to return home, however, the old inflammatory mischief in the neighborhood of the left ovary became relighted and the patient passed through a tedious illness with inflammatory consolidation at that point. During the illness the tumor remained small, and at its termination, by apparent resolution, decreased still further in size. A recent letter states that the patient remains well, and that the tumor, though still discoverable, maintains the small size to which it had been reduced.

To these reports of finished cases, which have been selected for special mention because the results have been more or less under the observation of colleagues, I may add brief mention of others, some of whom are still under treatment.

A hæmorrhagic, mixed, intramural and subperitoneal tumor in a case sent by Dr. A. W. Watson, has been relieved and the growth slightly diminished.

An intramural growth, the size of a child's head, in a patient sent by Dr. Duer, has been symptomatically relieved, with some reduction in size. The diminution appeared late in the treatment, and the growth bids fair to get much smaller.

A small, intramural growth, with accompanying areolar hyperplasia, has been reduced in size and symptomatically cured.

Six intramural growths of varying size, treated in dispensary practice recently, have been reduced and symptomatically cured.

A large, bleeding, intramural tumor, in a young lady of twenty-seven, diagnosed both as a solid ovarian

cyst and as malignant, is being treated by abdominal puncture and by bulbous intrauterine electrodes, with good results in both lessened hæmorrhage and reduction of size.

Two cases with small tumors were about to have oöphorectomy performed on the supposition that there was no tumor and that the trouble was ovarian. Careful investigation revealed small intramural buds in each case, determining the propriety of electrical treatment. Both are now comfortable, and bid fair to get entirely well.

A very large growth, in a patient sent to me by Dr. J. M. Barton, of this city, is now being treated by abdominal puncture, as much as 450 milliam-pères being passed through the abdominal wall about once a week without the patient losing a day from her occupation as a teacher in the public schools. This is the largest fibroid tumor yet seen by me. Considerably larger than the pregnant uterus at term, it fills both the pelvis and abdomen, dragging the bladder upward so far as to make it project as a soft tumor in front of the growth. Since the beginning of this treatment the tumor has decreased three inches in circumference.

Before closing, I desire to extend thanks to the gentlemen who have increased my opportunities of studying these conditions by referring cases. A recent writer in the *American Gynecological Journal* has made the statement that electricity has few friends among the surgeons of Philadelphia—a charge that I cannot unreservedly pronounce correct, in view of the many private patients received from them. The statement, nevertheless, may have a certain foundation as descriptive of their attitude toward the introduction of the Apostoli treatment into the public hospitals of this city. With the exception of my six months term at the Howard Hospital, which I have ineffectually endeavored to have lengthened, the scores of well-endowed charities in Philadelphia offer no opportunities for the continuous prosecution of this work in skilled hands, and I have been compelled, in conjunction with Dr. H. R. Bigelow, to maintain a dispensary for this purpose, now located at 412 Spruce Street, where deserving cases of this and other affections of women among the poor may receive the benefits of electrical treatment at any time during the year.

Report of Two Cases of Left Inguinal Colotomy for Obstruction of the Bowel.¹

BY DR. M. PRICE,

THE first case is that of a woman 50 years old, Mrs. F., who had been

suffering for a considerable time with a stoppage, as she called it, of the passage. She was under my care for nearly two years before the operation,

¹ Read before the Obstetrical Society of Philadelphia, May 5, 1892.

and dilatation was used, but with no benefit, and at times there was violent hæmorrhage. At the time of the dilatation she was spending most of her time, day and night, in an effort to have her bowels moved. The stricture was high up in the bowel, and was thought to be malignant. An operation was thought to be the only way out of the difficulty. The conditions, and the dangers of an operation, were explained to the patient, and she accepted the chances for her relief: first, to remove the diseased condition and re-unite the bowel, if possible, and, if not, to make a left inguinal colotomy. An artificial anus at this point is much to be preferred to any other, front or back, as this point gives the patient a chance to take care of herself with ease.

Operation.—The opening was made two inches in length and one and one-half inches inside the crest of the ileum, and the bowel lifted into the incision and stitched with four strong threads to the abdominal wall. These stitches were passed half an inch from the margin of the wound to be made in the long axis of the bowel, and the latter emptied of its contents, the edges of the bowel fastened to the skin with a whipped suture all the way round; this makes a complete closure. The patient is now living and in moderately good health, and the bowels under most perfect control, save when suffering from the effects of medicine or a disordered condition, when she is confined to the house; at all other times she attends to her usual duties, and visits her friends with perfect safety and comfort. She was operated on the 27th day of March, 1889, and to-day is looking much better than at the time of the operation,

although the disease is constantly on the increase, and the pelvis now is almost full. The bladder begins to show considerable involvement. Some might doubt this being a case of malignant disease, but I see nothing as yet to make me think anything else could produce such pathological changes.

OBSTRUCTION OF THE BOWEL FROM PRESSURE OF A MALIGNANT TUMOR OF THE UTERUS.

Mrs. S., aged 56 years, and in the last stage of malignant disease of the uterus. Her greatest difficulty was owing to the obstruction of the bowel. The movements were hard and most difficult to remove with the finger, and at times the nurse would give great pain. The suffering at the time of my first visit was extreme, and when I offered to relieve her by operation, and told her the character of the operation and how it would relieve the bowel, she was anxious to have it attended to at once.

The same operation was done as in the first case, and with most perfect relief of all the disagreeable symptoms. The patient lived for four months after the operation, and no one ever heard her regret the operation. There was no trouble to keep her clean; she was perfectly conscious when there was going to be a movement of the bowels, and in time to prevent soiling of the bed or the clothing of the patient.

Mrs. M., patient of Dr. Ekwurzel, of Frankford, Philadelphia, on February 25, 1892, was operated on for strangulated hernia after she had been suffering for thirty-six hours. The bowel was found to be black for several inches, but there were indica

tions of improvement in the color, so it was returned to the abdomen and the wound closed. The patient did quite well, had her bowels moved once and was thought to be improving, but after ten days she began to have severe pain and distention, with some swelling at the point of operation, the wound soon opened and discharged the contents of the bowel. This continued for nine weeks, all being done to improve her condition and encourage the fistula to close, but without success. On the contrary, her strength and flesh continued to decrease until all hope, save through operative interference, was given up, and she was turned over to me for operation.

When she was admitted to the hospital her condition was desperate; the kidneys were working nicely, no albumen nor any other trouble so far as we could discover; her stomach was disordered so that food only passed partially digested, through the fistulous opening. When an effort was made to clear out the lower bowel by injections, the fluid used passed quickly through the fistulous opening. From the history of the case, as given by Dr. Ekwurzel, I was sure the opening was in the small intestines, but from the fact that the injection passed so readily through the opening, we could not help but think there might be a possibility of its being at the head of the colon. There is a vast difference in the consequences or results in a fistula in the colon or one high up in the small intestines—there would be a chance of improvement if in the colon, so we could afford to wait—but here was a patient not improving, but daily growing weaker. The discharges had the characteristic appearances

of those of the small intestines near the stomach; the patient had well-marked symptoms of marasmus. After consultation it was decided we could not trust the case to medication and feeding, as Dr. Ekwurzel had done all in that direction that could help her, and without benefit; so on April 25th she was given ether, and an effort made for her relief. There was a large mass in the region of the right groin and at the head of the colon; so we decided to open the abdomen over the head of the colon, and, if possible, make an anastomosis without disturbing the point of fistula, and let that opening close after the operation. We thought this best on account of the desperate condition of the patient at the time; but as soon as my fingers came in contact with the mass of matted intestines I felt that all would have to be released and the bowel at its diseased point brought out and examined, the adhesions separated and a clear understanding of how matters stood, made. This conclusion was arrived at after a most careful examination made both by Dr. Jos. Price and myself. The adhesions were strong and covered a considerable space in the region of the iliac and femoral vessels, the artificial anus being through the femoral opening. When the matted and adherent bowel was delivered it included four or five feet of ileum, all in one mass, with the ileum completely separated near its junction with the jejunum; there was left only a small portion of the upper bowel to assist in digestion; all adhesions were separated and the bowels well washed and protected, the diseased portion removed, the ends invaginated and carefully and securely stitched, the bowel united by anasta-

mosis, thorough irrigation and glass drainage.

After the operation the patient did nicely, save the suppression of urine, none making its appearance after operation; pulse and temperature regular and good, pulse not over 80, temperature not over 99; bowels moved regularly after first day without pain or discomfort; in fact, there was no trouble save the want of action of the kidneys. This condition continued until the end of the fourth day, with no increase of pulse or temperature, but inclination to sleep; would fall asleep while conversing. The only warning of a change was a startled cry when waking from sleep, and she almost immediately expired.

I think the ether in this case was responsible for the suppression, although very little was used; the daily movement of the bowels indicated perfect closure of the bowel by immediate union. The patient had no distention, no abdominal symptoms, no peritonitis; she had severe pain over the kidneys during the whole time, and in spite of well-directed treatment with hot applications to the back and kidneys, nothing was accomplished.

Mrs. C., a young woman 23 years old, suffering from pyosalpinx and abscesses of both ovaries; she had had gonorrhœa a number of times, and had a very severe form of the disease at the time of her confinement to bed with rupture of one of the abscesses, which produced the peritonitis for which I operated. The condition of the patient was good, with the exception of depression of spirits, knowing the husband was the cause of her condition. The operation was a difficult one, but nothing to make me anxious as to her re-

covery, of which I had no doubt at the time. Great care was exercised in the anæsthetic and but little ether was given, but when the patient was put to bed I noticed the weak condition of her heart's action and called my brother's attention to it. Dr. Burns, who gave the ether, said her heart was very weak from the start. I called several times during the remainder of the day, and used large doses of strychnia and digitalis, but without improving the condition of the heart; otherwise the patient was doing nicely. The drainage was free, the skin moist, the temperature not above 99, and the kidneys working perfectly; all went well save the almost imperceptible heart-beat and a distinct skip. On the third day the pulse disappeared at the wrist and the heart was making desperate efforts to do its duty; there was no distinct sound, only a plunging, indistinct noise to indicate the terrible danger of my patient. On the morning of the fourth day the drainage was perfect, bowels moved without trouble, the secretions in a perfectly satisfactory condition, the patient was feeling well save a slight weight about the heart, was eating all we gave and said it was good, did not make a complaint all through her sickness. I was hourly expecting her death, but as day after day went by I began to hope there might be some improvement in her condition; but on the evening of the fourth day I was summoned to her side with the statement that she had had a sinking, faint feeling, as though she could not get air enough in her lungs, and asked to be raised in the bed; but when I got to her all this had passed and she expressed herself as perfectly relieved;

but, to me, there was a frightened appearance that may have remained from the past difficulty of breathing she had just recovered from.

From the start I held out no hope of a recovery to the family, for so sure was I that the patient was suffering from heart-clot, that I was sure of the result, but went on the old adage, "While there is life there is hope." I told the mother and the

nurse that when death did come it would be only a moment, and all would be over. At 8 o'clock on the fourth night she raised up quickly and made a little effort, as if to ask for something, and fell back, and all was over. The post-mortem confirmed the previous conclusions—a heart-clot had completed my work in a most unsatisfactory manner.

Twin Pregnancy, One Fœtus in Utero and the Other Extrauterine.¹

BY E. W. MARTIN, M.D.,
FREMONT, NEB.

Mrs. P., aged 40, of Scotch descent, had borne three children and had had one premature labor, the eldest child aged 16, the youngest 5 years. A fœtus was prematurely delivered three years before the birth of the youngest child. She became pregnant again about the middle of February, 1890. The history of the case proves to be very peculiar, nothing remarkable or unusual having been observed in either of her former pregnancies. On April 30th I was called to see her, she having discharged her regular physician, by whom she had been attended for several weeks. When I first saw the woman, on superficial examination I thought it a case of septic peritonitis. The vital phenomena were suffering, general prostration and an unlimited degree of pain manifest. I found her

lying upon her back, unable to be moved or touched, emaciated and suffering intense pain in the region of the ovaries, and particularly in the right hip. Absolute constipation had existed for twelve days, accompanied by excessive vomiting. The tongue was coated with a heavy fur in the centre and normal color on its edges. She was having considerable metrorrhagia, which had begun a fortnight before. By vaginal and rectal examination I diagnosed a retroverted, impacted, gravid uterus. By the knee and chest position, after two days' effort, I was able, in a great measure, to replace the organ. Symptoms began to improve, the vomiting ceased, and, by a copious injection per rectum, the bowels were moved, and, with a little encouragement, they soon resumed some degree of regularity. Her appetite returned, and within ten

¹ Read before the Nebraska State Medical Society, at Omaha, Neb., May 12, 1892.

days the patient was up and walking about the house and yard. Immediately upon her effort to be on her feet her right leg began to swell, and assumed alarming proportions. Her foot, ankle and leg to the knee presented marked œdema. With but slight improvement, this state of facts continued until July 18th, when I was suddenly called, and found her with all the symptoms of labor. I should have stated that at intervals of every five or six hours, slight hæmorrhage from the uterus had continued from the time I first saw her until the present. The labor symptoms now continued until the 23d, when a five months' foetus was expelled. The placenta presented the appearance of having been partially detached, which doubtless accounts for the continued hæmorrhage. The placenta came away with the same pain which expelled the foetus, when all pain ceased, followed by little hæmorrhage. For two days I irrigated the uterus with antiseptic lotions. My attention was called by the patient to the fact that she was having quickening, as though another child existed in the uterus. On placing my hand upon the abdomen I was convinced beyond a doubt that her conjectures were not entirely groundless, as the movements of the child could be distinctly felt at this juncture. However, the patient got up within five days, the swelling disappeared from the limb, she gained in flesh and strength until the 17th of August, when pain began in the region of the right ovary, considerable pain in the right hip, back and right limb. Gave morphia to relieve pain. By digital examination, or by any other process, I was unable to say whether I

had ectopic pregnancy or not. The os was lax and flabby, and, although I could pass my finger well up through it, I could find nothing within reach, and doubting the propriety of exploring with the sound, I immediately wrote a history of the case and sent it to Dr. Thaddeus Reamy, of Cincinnati, Ohio, asking him what he thought I had—whether double pregnancy with more than one placenta, a bifid uterus, or extrauterine pregnancy. If the latter, he thought at this stage "it must be of the so-called abdominal variety. He, like Lawson Tait, believed that primary abdominal pregnancy rarely if ever occurred, such cases usually being due to early rupture of the Fallopian tube, and escape of foetus into the abdominal cavity." He advised me not to explore the uterine cavity, but to watch the case, as he believed it to be one simply of plural uterine pregnancy. Upon this theory I relied only for a short time, when I made my diagnosis ectopic pregnancy. In the meantime the ordinary symptoms had been going on, unmistakable quickening, placental souffle, foetal heart sounds, and progressive increase in size. When I made my diagnosis then trouble began. Consultation was demanded and the ordinary routine indulged in. Dr. L. B. Smith, of my city, was called in, and three talented physicians from Lincoln, Neb., Drs. Peebles, Mitchell and Giffin. Suffice it to say, the case was so difficult of diagnosis that we were divided in opinion, some holding to the theory of bifid uterus and others to the ectopic theory. Dr. Peebles was not called until September 25th. On September 26th (the next day) rupture of sac occurred, followed by great pain and collapse. September

27th, at 8.30 P.M., death occurred. On Sunday, September 28th, I called all who were in consultation, and a post-mortem was held which developed the following:

Extrauterine pregnancy of seven and one-half months' gestation, remaining after the expulsion, more than two months previously, from the womb of a foetus of an uterine pregnancy. The developments of the two foetuses would indicate that conception had taken place at the same time, and from all the circumstances this theory is the most plausible. Abdominal section displayed a ruptured chorion and escape of foetus and liquor amnii into the abdominal cavity among the viscera. The foetus was easily removed from among the intestines. The chorion was found to have many adhesions to both the parietes and viscera. Evidence of an old peritonitis having existed in the region of the right ovary, was patent. The adhesions developed the impossibility of a successful operation of laparotomy being performed at any time after the expulsion of the first foetus. At no time previous could a correct diagnosis have been made. With a child *in utero* no man would have risked his reputation to say there was another also in the abdominal cavity. Another singular incident now presented itself. The umbilical cord was bifurcated and led to two placentas. The first, of small development, weighing about three or four ounces, had attached itself to the folds of peritonæum about the left broad ligament; the other, weighing two or three pounds, found its attachment in Douglas' cul-de-sac.

It would seem at the time of conception that at least one of the ova, in its transit from the ovary to the uterus, was arrested in that portion of the Fallopian tube passing through the walls of the uterus; there it became fructified, and the development began. This would be called interstitial pregnancy. The post-mortem demonstrated this to be true. As the muscular fibres of the uterus became stretched and distended it formed an outer covering of the ovum, and accounts for its going to that long period of seven months before rupture, as it is very susceptible of distention, at least it seemed so in this case. A thin layer of uterine muscular fibre was found surrounding nearly the whole of the sac, notwithstanding the fact that it is asserted by some of the most eminent authorities that no placenta having primarily attached itself to the tube or peritonæum can attach itself to any other structure; how can we account for the firm attachment of this one in Douglas' cul-de-sac? Was that its primary location? If not, how did it get there? The divisions and subdivisions of ectopic pregnancy, as found in most standard text-books, tend to confuse the medical mind, for such classifications are not sustained by facts correctly observed. It is not my purpose in this paper to speculate or philosophize, but I have attempted to give you all the facts, as far as I was able, connected with this most interesting case. So far as I have looked up medical literature, there has been no case like it. In conclusion, it is but right to say that this sad accident closed the life of one of the most elegant and cultivated ladies of the West.

Pelvic Inflammation.¹

BY REGINALD H. FITZ, M.D.

PELVIC inflammations relate to those of the wall and to those of the contents of the pelvis. The former affect the parietal peritonæum and the sub-peritoneal fibrous tissue, while the latter concern the uterus, tubes, ovaries, ligaments, bladder, rectum, and, sometimes, displaced abdominal contents, especially the vermiform appendix, which have entered the pelvis.

At this meeting it is presumable that the discussion will be especially limited to the consideration of the inflammations of the pelvic wall and of the female genital apparatus. Since inflammation of the peritoneal or sub-peritoneal tissue of one part is likely to become rapidly extended to another, it has been found convenient to speak of a pelvic peritonitis and of a pelvic cellulitis in contradistinction to a metritis, a salpingitis or an oöphoritis, although an inflammatory process in one of the organs concerned is likely to be associated with an inflammation of its peritoneal covering or adjacent fibrous tissue.

The term "pelvic cellulitis" dates back to elementary ideas of the structure of connective tissue and to erroneous views of the pathology of pelvic inflammation. Then, a cellular tissue was one containing holes, such as might be inflated, for example, the subcutaneous connective tissue; now,

the only cellular tissue is one which contains cells, living or dead. In former times the so-called cellular tissue was the place where pus and abscesses were often found, and a pelvic abscess was supposed to lie either in the peritoneal cavity, an encysted or circumscribed peritonitis, or in this cellular tissue of the pelvis—a pelvic cellulitis.

At present not only is the term "cellular tissue" becoming obsolete, but pelvic abscesses are known to occur with comparative infrequency in the pelvic connective tissue. What were, formerly, supposed to be so situated, are, now, known to be, for the most part, cases of pyosalpinx—pus-tubes.

But an inflammatory process may lie in the connective tissue of the pelvis. It usually arises, in the female, in that portion of the sub-peritoneal fibrous tissue near the uterus, to which the distinctive term of parametrium is applied.

This parametrium is the loose, fibrous tissue which extends from the lower half of the uterus outwards, between the peritoneal layers of the broad ligaments, in front and behind, towards the bladder and rectum, while, downwards, it surrounds the upper part of the vagina. It is continuous everywhere with the pelvic fibrous tissue of which it is a part, and, thus is immediately connected with the sub-peritoneal fibrous tissue in general and with the ischio-rectal and subcutaneous tissue of the perineum. The parametrium does not

¹ At a recent meeting of the section in Obstetrics and Gynæcology of the Suffolk District Medical Society (Mass.), reported in the Boston Medical and Surgical Journal, the subject of pelvic inflammation was discussed. The paper by R. H. Fitz, M.D., being of such marked value, we print it in full.

extend to the upper half of the uterus. From a point corresponding to the inner os the peritonæum is closely applied to the muscular wall of the uterus, whereas below this point the loose, fibrous tissue of the parametrium lies between.

In the case of an inflammatory process affecting the peritoneal covering of the body of the uterus, the term "perimetritis" is applied, to discriminate it from a parametritis affecting the loose tissue lying between the cervical portion of the uterus and the peritonæum. These two conditions may occur quite independently of each other.

The perimetritis tends to spread to continuous and contiguous surfaces of the pelvic peritonæum, and even to portions of the intestinal peritonæum which come in contact. It rarely extends for any considerable distance into the uterine wall.

A parametritis, on the contrary, not only spreads laterally in every direction, following the course of the lymph and blood-currents, but it usually reaches to the peritoneal covering of the parametrium, and, thence proceeds to the peritonæum of the pelvis and abdomen.

From the etiological point of view most severe pelvic inflammations are the result of an infection of the surface of the genital tract from without. The infective material and its products are either carried along the surface, from without inwards, to the ends of the tubes and into the pelvis, or through the wall, usually lacerated or ulcerated, into the blood and lymph-vessels.

It is unnecessary to say that the infective substance is now regarded as of bacterial origin and as usually

introduced from without, through a lack of efficient cleanliness on the part of others during parturition or at operative attempts to induce abortion or to treat genital disease. The infective or septic varieties of pelvic inflammation thus, commonly, arise. In this series are also to be included those instances of auto-infection, through lack of sufficient personal cleanliness, where bacteria and their products invade the body through the genital tract, there having been no instrumental or manipulative procedures. The most striking instance of this auto-infection is to be found in the occurrence of, even fatal, peritonitis, during and toward the close of menstruation, by the dropping of infected catamenial fluid from the Fallopian tubes. This occurrence, it is needless to say, is unduly favored by the prevailing fear of menstruating women to keep the external genitals clean by washing during the monthly flow. Other illustrations are furnished by the so-called spontaneous origin of puerperal fever and by the suppurative peritonitis which may result from a ruptured, tubal pregnancy.

Under the infective forms of inflammation are also to be included the gonorrhœal and tubercular varieties. The former is now universally recognized as one of the most frequent and important causes of the chronic and recurring varieties of pelvic inflammation and whose appreciation is of the utmost importance in the treatment of this affection. The tubercular inflammations are of less practical importance, since the resulting initial disturbances are usually insufficient to produce severe symptoms, and the more important tubercular processes elsewhere in the

body are so extensive and serious as to divert attention from the former. In the tubercular, pelvic inflammations the infection is usually from the fimbriated end of the tubes, and is ordinarily discovered after operative treatment for some other supposed disease.

All pelvic inflammations, however, are not infective, although the severe forms are of this nature. The frequent presence of adhesions between the surface of pelvic tumors, especially uterine, and ovarian, and the peritonæum are instances of a pelvic peritonitis often so mild as to have taken place without suggestive symptoms; still symptoms of greater or less severity may be associated with these milder varieties of non-infective inflammation, and may result from the rupture of an ovarian cyst, or from a twisted pedicle. Many retro-uterine hæmatocœles belong in this series. Such mild, non-infective, perhaps traumatic (mechanical or chemical) varieties of pelvic inflammation largely account for the rarity with which the pelvis is found free from adhesions at post-mortem examinations.

Before the days of frequent laparotomies the pathological anatomy of pelvic inflammation was, necessarily, studied after death. The lesions then found were the fibrous and fibrinous adhesions and membranes, the collections of serum, fibrin, pus and blood, with which all were familiar as evidences of old or recent, circumscribed or recurrent, pelvic peritonitis. The tubes were not infrequently found tortuous and obliterated, thickened and dilated, their contents usually watery, though sometimes cheesy or purulent. Those days furnished the natural history of pelvic inflammations

and showed what would happen if the patients were, practically, let alone. But, of late years, it has been found that our knowledge of the pathology of pelvic inflammations was capable of a wider enlargement by the study of material obtained from the abdomen during life. The contributions of chiefest importance thus furnished were the diseased Fallopian tubes. It was found that a suppurating tube was the usual cause of a recurring pelvic inflammation. A pus-tube often proved to be the chronic pelvic abscess, which hitherto had been supposed to lie in the pelvic fibrous tissue, and whose healing proved so obstinate when opened through the vagina, rectum or abdominal wall. This obstinacy became explained when it was evident that the result of the operation, as then conducted, was essentially to establish a tubal fistula, along which a catarrhal secretion would flow when pus ceased to be formed. The study of pus-tubes obtained by the laparotomist, in connection with Noeggerath's investigations, has shown that the gonorrhœal virus is the usual cause of this lesion and the important group of symptoms associated with its presence. It is, perhaps, well to say *usual*, and not *only*, for the experience of both laparotomist and experimental pathologist agree in recognizing the frequent failure of gonorrhœal pus, escaping from a pyosalpinx, to infect the peritonæum, while the pus in a tube resulting from puerperal or operative infection usually possess properties of extreme virulence.

The study of the tubes removed by the laparotomist has led to another important contribution to pelvic pathology. It has made clear that the

usual cause of the pelvic hæmatocele and of the hæmatoma of the broad ligament was a ruptured tubal pregnancy. The customary failure of the rupture to produce more than a bland inflammation was readily explained when it appeared that the usual seat of the rupture was through that portion of the tubal wall corresponding to the placental insertion, and was thus removed from any continuity of surface with the tubal canal which might contain infective bacteria. On the contrary, a direct rupture into and through the tubal canal would offer a satisfactory explanation for the supuration of the hæmatocele which, sometimes, precedes the operative attempts at the relief of the latter.

It may be stated, in conclusion, in order to promote the object of the meeting:

That pelvic inflammations affect the wall and contents, and that inflammation of the former usually results from disease of the latter.

These inflammations are simple and infective. The former result from traumatic agencies, as a ruptured cyst, a twisted pedicle, a prolonged labor, or a tumor. The latter are septic, gonorrhœal or tubercular. The sepsis results from bacterial invasion under conditions associated with pregnancy

and menstruation, or with attempts at diagnosis and treatment, as in the passage of sounds, the use of tents, instruments and manipulations. The pelvic abscess is usually either a pus-tube or a circumscribed peritonitis—the former far more common than the latter, especially in chronic and recurrent cases. Abscesses of the sub-peritoneal fibrous tissue of the pelvis may occur, usually proceeding from the uterus as a suppurative parametritis and rarely attaining a size to be confounded with the previous varieties.

Both the simple and infective forms of pelvic inflammation may result in adhesions, chronic adhesive peritonitis, and in thickenings of the parametrium—chronic parametritis. The former are the chief cause of uterine displacements, the latter are less frequent, and are usually so situated as to produce but little mechanical disturbance.

Simple forms of pelvic inflammation are frequently unavoidable, and, as a rule, require simple treatment, this chiefly medical. Infective forms of pelvic inflammation are largely avoidable, immediately or remotely injurious or dangerous to life and well-being, and generally demand treatment by surgical methods.

The Treatment of Pelvic Abscess.¹

BY ARTHUR T. CABOT, M.D.

In speaking of pelvic abscess, I

refer to cases where a considerable collection of pus exists, and in which, therefore, temporizing measures seem no longer applicable, but for which a radical operation for the evacuation

¹ Remarks made at the meeting of the Obstetrical and Gynæcological Section of the Suffolk District Medical Society, January 13, 1892, during the discussion on "The Pathology, Diagnosis and Treatment of Pelvic Inflammations."

of the pus in some way or other is called for. I hope to hear something said about the pathology of these abscesses. Practically, as they come to the eye of the surgeon, the parts are so tied up that it is very difficult to say whether the abscess is still confined to the Fallopian tube, whether it has already opened through the wall of the tube and is contained between the folds of the broad ligament, or whether, having opened outside of the tube, it is shut in by adhesion of the intestines above, making an abscess cavity with peritoneal walls, such as we see in cases of ulcerated appendix vermiformis. The pelvic abscess having peritoneal walls may also result from inflammation occurring in a hæmatocele.

The medical journals have been full of articles advocating the treatment of these abscesses in the pelvic cavity by laparotomy. Led by Mr. Tait, a number of enthusiastic laparotomists hold that the better way of treating all of these cases is by incision through the abdominal wall. Their obvious argument is that you get a better view of the condition, can proceed more intelligently to treat it properly, and can usually remove the whole abscess cavity, with its wall. While I am inclined to assent to this position for the most part, I am far from believing that the abdominal incision is the only treatment for these cases, or that it is in all cases the best treatment.

The advantages claimed for a treatment by laparotomy are, quick healing and the absence of relapse. If the pus tubes can be thoroughly removed, the case heals up almost like a simple ovariectomy, and the patient is quickly well. When the tubes

have been thus removed, there is naturally little, if any, chance of a recurrence of the abscess. These advantages, however, are not obtained in those cases in which, an abscess being found which cannot be entirely peeled out, drainage has to be resorted to; for in such a case there is quite as much likelihood that the abscess will be chronic, or will recur when the drainage is put in over the pubes as when it is introduced through the vagina. In those cases in which drainage is to be established, the operation through the peritoneal cavity is more dangerous than the simple opening of the abscess into the vagina. Even in some of the cases in which the abscess wall is wholly removed, the close adhesion of it to the rectum may lead to a fæcal fistula. These are, in some cases, serious disadvantages.

Further, it sometimes happens that one removes the tubes and ovaries unnecessarily. It is very difficult for an operator who has just opened the abdomen to do a radical operation, and who feels that, in order to justify the operation, he must obtain a permanent cure, to leave a doubtful tube on the other side. He perhaps removes a large pus tube from one side and finds the other tube somewhat thickened. It is then often hard to tell whether this may be left, or must be removed; and, in fact, Tait recommends invariably removing both tubes in these operations. In a young married woman, or in a woman who expects to be married, this may be a decided disadvantage.

The last disadvantage of the abdominal operation is that, after the removal of the tubes, the scars in the broad ligaments, which have at first

shortened them, melt away and leave the uterus with less support than before. In some of these cases I have seen a very troublesome tendency to prolapse and retroversion.

These are some of the reasons which make the abdominal operation fall short of a perfect cure. On the other hand, we know that these pelvic abscesses not infrequently seek an outlet into the vagina, and that even when they are not pointing, they are often easily felt from below. An opening made through the vagina is necessarily a dependent one and gives very good drainage. The disadvantages that are urged against an opening in this direction are, that it is slow of healing, leaving sometimes a fistulous opening; and that the abscess, when thus treated, is likely to recur. These disadvantages are ones which were attached to this operation largely in pre-antiseptic times, and do not hold in the same degree now. It has been my experience, in a large number of these operations, that if the drainage was kept up by a tube until the abscess had contracted down to a small fistulous tract, this fistulous opening almost invariably closed after the removal of the drainage tube, and that the cure has been lasting.

Now, how are we to select the proper cases for one operation or the other? I should say that a localized abscess down in the pelvis, which is easily felt through the vagina, should be opened below. In some of these cases, such as Dr. Chadwick has described, in which there is an almost board-like hardness of the parts, if an abscess has formed, you may feel somewhere a softer, less resistant point, and pressure upon this is often somewhat painful. In such a case,

after the vagina has been rendered aseptic, exploration with the needle may be safely made, and in case pus is found, a director can be passed alongside of the needle, and upon this as a guide the incision can be made into the cavity. The incision should be a small one, and a dilator should be relied upon for afterwards enlarging the opening. Free cutting in this region sometimes leads to troublesome hæmorrhage from the venous sinuses which exist about the uterus; but an opening made in the way that I have described is an almost bloodless operation, and I have never met with a hæmorrhage which was not immediately stopped by the introduction of the drainage tube.

After this operation, which I have done a good many times, I have not been troubled with a relapse in any case in which the tube was retained for the proper length of time. The mistake often made is that of taking the tube out before the abscess cavity has entirely closed down upon it. I use a T-shaped tube, cut short, so that it does not protrude from the vagina, and does not interfere with thorough vaginal douches, which are carried out with hot antiseptic solutions two or three times a day. The tube thus made retains its place perfectly in the abscess, even when the patient is up and about.

When, on the other hand, the induration and hardness does not come down into close contact with the vagina, but where the Fallopian tubes can be made out as sausage-like swellings high up in the pelvis, we have a condition in which laparotomy is demanded. Between these two extremes, the judgment of the surgeon, guided by careful examination, must

determine whether the pus in a given case is readily accessible from the vagina, or whether the chance of being able to thoroughly remove the pus cavity makes it wiser to approach the case from above.

The cases to which I have alluded in the above remarks are the more chronic ones. Occasionally we have a case of acute suppurative salpingitis, or an acute exacerbation in a chronic case, which may indicate the extension of inflammation to the peritonæum, and in such a case laparotomy is imperatively demanded. Dr. Chadwick spoke of the occasional difficulty of diagnosis between appendicitis and inflammation in the pelvis. This is one of the reasons which would make me prefer a laparotomy for those inflammations which extend high up in the abdomen, in order that the case may be thoroughly understood and intelligently treated.

I remember one such case in which, believing that I was doing an operation for appendicitis, I found two very large pus tubes and a great deal of free pus in the pelvic cavity. In that case the evidence of abdominal inflammation was clear; the laparotomy was the only operation thought of, and the patient made a good recovery.

Before closing these rather desultory remarks, I wish to speak of one puzzling case in which, with every sign of an abdominal abscess, I operated and found no abscess. The patient was a girl of fourteen, who for four or five weeks had suffered from a good deal of pelvic inflammation, with pain and high fever. This followed exposure from sitting on the damp ground at the close of menstruation. A hard mass was to be felt rising up out of the pelvis, well toward

the umbilicus, and the pelvic cavity was filled with a mass of bony hardness. The pain and high temperature persisted for so long that it led to the belief that there was pus somewhere in this cake of exudation. As she was running down-hill, an operation was decided upon, and I made an incision over the mass in the median line. The peritonæum was thickened and adherent to this mass, so that I did not at first open the general peritoneal cavity. After plunging a needle and then a trocar into the tumor in several directions in search for pus and finding none, I then opened the general peritoneal cavity above in order to get a clear idea of the topography, and found, rising out of the pelvis, an irregular mass of exudation which bound all the organs together and so masked them that you could not tell where the uterus and other pelvic contents were. No softening could be felt anywhere, and, feeling very much dissatisfied with the operation, I sewed up the abdomen. From that moment she made a good recovery. The mass rapidly disappeared, and we were all very much gratified, although we did not know why it should have done so.

I have since heard of other similar cases, and I have no doubt that gentlemen who are more practised in gynecology have seen many such. It was, however, a unique experience at that time to me.

In the discussion which followed, Dr. J. R. Chadwick said, after giving a few diagnostic points, that pelvic peritonitis was the more severe of the two forms of inflammation, and, as well, that pelvic cellulitis was extremely rare, not having seen one of the latter to one hundred of the former.

He lays particular stress on the "board-like" feel which the vaginal vault presents on examinations, this condition being less marked as the decline of active symptoms takes place. In cellulitis the inflammation extends down farther into the pelvis. In questions of differential diagnosis, salpingitis and disease of the ovaries are to be considered, the first often being the starting-point of many a peritonitis, and there is difficulty in diagnosing between circumscribed peritonitis and suppuration in the tube without escape of pus, tumors of the abdomen, floating kidneys, perinephritic abscess, renal and uterine colics, cysts of ovaries and fibroids of uterus, catarrhal disease of intestines with fever, intersusception and constrictions, extrauterine pregnancy and cancer of pelvis outside of the uterus.

F. H. Davenport, in regard to treatment of acute pelvic inflammation, advises rest and quiet and the application of soothing remedies. To the abdomen hot fomentations, and to the vagina mild applications, the bowels being kept open, operative measures being rarely considered. In chronic inflammation, where thickening all about the pelvic contents is found, treatment through the vagina is indicated, such as large, copious, hot-water douches, or the use of glycerine tampons. Large blisters to the abdomen serve an excellent purpose where there are large deposits of lymph. In agreeing with Dr. Chadwick regarding the infrequency of cellulitis, at the same time is convinced, from autopsies, that it does exist. Has seen abscesses in the cellular tissue. Acute cellulitis, being generally the result of puerperal

septic processes, demands no special treatment more than has been outlined. In passing on to suppuration, surgical aid is called for. The most frequent cause of pelvic inflammation is inflammation of the tubes. Does not consider simply enlarged tube an indication for removal unless pus is found, and even then thinks there are other means for treatment; another question being the circumstances of the woman, both as regards her physical health and relation she bears to her family; that is, whether she can spare the time to take a long course of medical treatment, or, being a working-woman, time would be too valuable and operation demanded. Much has been done in drainage through the uterus, which demands that there be a free communication between vagina and pus sac through the uterus. In the main, reliance is placed on glycerine tampons; stool tampons, saturated with glycerine, are placed in the upper part of the vagina and left in position for two or three days, thus giving a soft cushion upon which the uterus rests, and also producing a free watery discharge. Iodine is also useful. Galvanism is another form of treatment. The question of rupture of pus tubes is so remote as not to enter into consideration in favoring laparotomy, all things being equal.

Viewed from the obstetrician's standpoint, Dr. A. D. Sinclair says, cases of pure cellulitis have come under his observation, and claims pelvic cellulitis is not so rare as has been stated. Under various names—pelvic peritonitis, abscess, periuterine inflammation, etc.—has pelvic cellulitis been described in the past. After citing Bernutz and Goupil, also the excellent work of Vaisin, and giv-

ing the impression they created on the gynæcologists, goes on to say, in spite of them all, there is more pelvic cellulitis than they admit—cellulitis, having its origin in the true cellular tissue, and, maybe, eventually involving the surrounding tissues, including the tubes, forming one large abscess. In the discussion of the first paper ever presented to the Society on Pelvic Cellulitis, prepared and read by him, the question as to the extent of cellular tissue about the cervix being capable of forming such masses, the condition of a finger, the seat of a felon, was given to prove how large a growth might come in the small amount of cellular tissue even in that locality. Symptoms of pain about the hip or elsewhere, dysuria and tenderness, or nausea and cough, are to be looked on with suspicion, particularly in the case of women some time after delivery (puerperal cases). The treatment then was the application of leeches to the anus, also poultices to the abdomen, and recovery was the rule. Trouble in the tubes, the other class, in patients of poor constitution, gives more trouble. Here the mortality may reach between ten per cent. and fifteen per cent.

Dr. W. W. Gannett endorses Dr. Sinclair in the question of cellulitis, and explains it on the grounds of a lymphangitis, as occurring in the puerperal state. Abscesses in the broad ligament are often caused in this way.

He also contends that a pus tube is a source of constant danger to the woman.

Dr. E. W. Cushing reported twenty-seven cases (in March, 1887) for removal of diseased tubes. Undoubtedly, he says, many cases, under the treatment as outlined by Dr. Davidson, get well. Once in a while one goes to the bad, and the means of going may be one of three ways: Rapidly spreading peritonitis; second, through the absorption of pus, the result of abscess wall going in the general destruction; third, the opening of the sac into the bowel, which is generally supposed to be salutary, the sac discharging, filling and discharging again—slowly killing the woman through the constant sapping of the vital forces. Considering these three conditions, the question of operation is justifiable and indicated. The idea of opening pelvic abscesses, as advanced by Dr. Cabot, is judicious, except that not enough emphasis was put on the necessity of removing diseased tubes. Where a collection of pus can be reached from below, where the mass is down in the vagina, it is well to let it out there, at the same time considering the question of future operation on the tubes. These cases form the minority, and are post-puerperal or follow abortion. In the greater number of cases the disease is in the tubes and should be attacked through the abdominal walls.

GYNÆCOLOGICAL THERAPEUTICS.

METRORRHAGIA.

Dr. Braun administers the following potion in metrorrhagia:

R. Extr. ergotæ,	grs. xxii.
Elixir acid. halleri,	℥ xv.
Aquæ distillat.,	f ℥ iv.
Syrup rubi idæi,	f ℥ v.

Sufficient for one potion.

Sig.—During the first few days after labor one to two teaspoonfuls every two hours.—*El Siglo Medico*, p. 641, 1890.

ILEO-COLITIS.

Van Goigtsnoven has obtained most satisfactory results from the following:

R Hydrarg. chlorid. mit.,	gr. i.
Bismuth salicylat.,	
Salol,	
Pulv. carbo ligni,	āā gr. xii. M.
Div. in chart,	No. xii.

Sig.—One powder every four hours.

Antiseptic irrigation of the bowels is also to be employed.—*Southern Med. Record*.

MORPHINE-VASELINE.

The following formula is proposed as an agreeable and easily-absorbed combination:

R. Chloret. morphic.,	gr. iij.
Chloroform. pur.,	f ℥ ij.
Vaseline,	℥ j.

The chloroform favors the absorption of a larger amount of the morphine and causes it to be evenly distributed.—*Hospitals-Tidende*, No. 32, 1890.

VAGINAL INJECTIONS.

Dr. Budin (Paris) uses the following formula:

R. Mercur. corrosiv.,	gr. iv.
Acid. tartaric,	℥ xv.
Sol. alcoholic indigo carmine (1:25)	gtt. j.

Sufficient for one quart of water.

Dr. Charpentier (Paris) employs the following solution:

R. Cupri sulphat.,	℥ jiss.
Aquæ distillat.,	f ℥ xxxij.

—*Formulaire Aide-Memoire de la Faculté Médecine de Paris*.

ICHTHYOL IN DISEASES OF WOMEN.

Drs. Reitmann and Schönauer experimented with ichthyol in acute and chronic inflammatory diseases of the uterus and its appendages, and are quite satisfied with its efficaciousness. They tried it with success in parametritis, pelveoperitonitis, oöphoritis, salpingitis, perioöphoritis, perisalpingitis, as well as retrouterine and periuterine exudates, chronic metritis and cervical erosions. The following formula was used:

R. Ammon. sulpho-ichthyol,	℥ jiss.
Glycerin.,	f ℥ iij.

Sig.—For external application.—*Zeitschrift für Therapie*, No. 18, 1890.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of May 5, 1892.

THE PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

ENDOMETRITIS CONSIDERED CLINICALLY.
BY CHARLES P. NOBLE, M.D. (See page
513.)

DISCUSSION.

DR. E. E. MONTGOMERY :

Dr. Noble has given us a very clear and able presentation of the subject of endometritis. The importance of this disease cannot be overestimated when we consider the probability of the extension of the disease from the uterine mucosa to that of the tubes and thence to the peritonæum and ovaries, and the serious maiming of the individual, not only in the function of these organs, but in the general health during subsequent years. The almost absolute impossibility of restoring the function also indicates the importance of early treatment in such diseased conditions.

In speaking of the induction of sepsis and extension to the uterine mucosa, with subsequent involvement of the peritonæum, I understood the author to say that this takes place, not infrequently, independently of the tube, as is shown by the fact that operation discloses the tube to be perfectly healthy. An experience of my own a year ago has led me to believe that the tube may be the carrier of infection without itself being infected, that a patulous tube may be the canal through which the disease is carried to the peritonæum and ovary, without itself undergoing inflammatory action. A young woman was confined for the first time. The labor was easy, but three days later there was a considerable elevation of temperature. At the end of a week I was called to see the patient, in a neighboring city, to determine whether there was any involvement of the peritoneal cavity necessitating operation. Careful examination under an anæsthetic failed to disclose any evidence of involvement of the peritonæum. I could not determine that the tubes and ovaries were affected. The uterus was dilated by the

introduction of the finger, and there was at once an unpleasant odor perceptible. This had not been recognized before. Intrauterine injections had been employed from the time of the development of the elevation of temperature. The uterine cavity was curetted with the finger and a blunt curette, washed out with an antiseptic solution and then packed with a twist of iodoform gauze. This was permitted to remain forty-eight hours. The temperature became normal and remained so for fifty-four hours. After this the temperature ranged between 99° and 101° , with rather frequent pulse for nearly three weeks, at the end of which time it again reached 106° . I saw her again at this time, when careful examination still failed to disclose any signs of involvement of the peritonæum. Hoping that the condition might be a temporary one, I suggested a plan of treatment with the idea that, if not successful, exploratory incision should be made. In less than forty-eight hours I was again summoned on account of recurring chills and high temperature. The abdomen was opened. There was nothing in the walls of the uterus that indicated inflammation. The tubes were healthy. Projecting from the orifice of the left tube was a small piece of lymph, with a similar portion on the surface of the left ovary. The ovaries and tubes were removed. The left was four times its natural size and contained a teaspoonful of greenish-yellow pus. The temperature at once subsided and the patient very promptly recovered.

The rapid extension of the disease from the tubes to the pelvic structures indicates the importance of rendering the uterine canal sterile as early as possible. I do not believe that there is any better plan in acute sepsis following delivery than to thoroughly dilate the canal and curette the cavity, washing it out to render it sterile and drain by the introduction of a twist of iodoform gauze. This insures drainage, and there is a likelihood

of relief of the trouble without further extension. I believe that the majority of cases of endometritis, and consequently of salpingitis, are the result of regurgitation of fluid into the tube on account of obstruction to its passage through the cervical canal. In these cases we have desquamation of the epithelium with swelling of the mucous membrane. The narrowest portion of the canal is at the internal os, and thus we have here constriction due to inflammatory conditions, and the discharge which is increased in quantity makes its exit with difficulty. The uterus undergoes contraction in order to force out the fluid, and if the cervical opening is not readily distended, the fluid regurgitates into the tube. If such a patient is subjected to examination by a careless physician or one who uses the sound, infectious material may be carried into the uterus, and quickly extend to the tubes, with the development of serious trouble. These cases are greatly benefited by dilatation, moderate curetting, drainage and rest. I care not whether the drainage be accomplished by gauze or by the use of a stem with grooves upon its side, in order that the discharge may have a ready exit. I do not believe that dilatation is necessarily contraindicated, even when salpingitis exists, that is, where inflammation of the mucous membrane of the tubes is present. If we are able to secure drainage from the uterus and prevent further regurgitation and secure emptying of the tubes, I am sure that many cases will be relieved and the disease cured, where if this is neglected the patient will necessarily be subjected to an operative procedure of a sacrificial character.

In performing operations, every aseptic precaution should be observed. This is as important as in operations upon the peritoneal cavity. The vagina must not only be irrigated but thoroughly scrubbed, and for this purpose there is nothing better than an application of green soap with a five to ten per cent. solution of creolin. The mucous membrane should be thoroughly scrubbed and washed before we proceed to disturb the uterus. The advantage of creolin over the bichloride is that it does not constrict the tissues. It leaves the parts in a more relaxed condition and less dry than after the application of the sublimate solution. Before proceeding to dilatation the cavity of the cervix should be curetted and disinfected. In the main I

fully agree with Dr. Noble in regard to the importance of dilatation and curetting, and particularly of drainage and rest. Many of these cases can be treated in this way and more accomplished in two or three weeks than by the ordinary methods in as many months.

DR. JOSEPH PRICE:

You have all repeatedly heard my views upon this subject, and I scarcely feel like entering this discussion. I sometimes think that these methods of treatment are very much like locking the stable after the horse has been stolen. A woman returns from her wedding trip with advanced mischief, and I scarcely think that curetting, iodine and carbolic acid, single or mixed, will save her from the mischief that follows. The discussion seems to fortify this statement. I will refer only to two cases. In a recent discussion in the New York Obstetrical Society a gentleman spoke of a case of endometritis which he had curetted, drained and applied solutions to and sent her home well. In the course of two months she returns with two ovarian abscesses and pus tubes. These are removed and she gets well. Dr. Montgomery cites a case in which he etherizes, examines carefully and fails to find ovarian or tubal disease. He directed intrauterine treatment, and ovarian abscess and disease of the tubes follow, for which he does an exploratory incision. In this case it would be interesting to know the causal relation that the primary trouble bears to the tubal and ovarian disease. Again, it would be interesting to know the causal relation of the dilatation, intrauterine treatment and traumatism to the abscess and the lymph he found in his exploratory section. These are questions worth considering in this discussion and in the management of similar cases. Our knowledge of this subject is accurate, and men should not grope in darkness and guess at what is best, nor should they resort to exploratory methods blindly.

DR. E. E. MONTGOMERY:

Dr. Price has evidently misunderstood my remarks. This woman had had a child a week before I saw her. The cavity of the uterus was distended with infectious material, which was scraped away.

DR. J. PRICE:

I did not mean to criticise Dr. Mont-

gomery's case, except as a type of the vast number of similar cases on record. Gynæcologists of the present day are coming back to the scientist's position and accepting facts only. When we hear men talking about endometritis in all its varieties, it is natural to ask them if they can demonstrate such conditions with the uterus in their hands. I know very well that many years ago the condition of affairs that we find so commonly in the female pelvis did not exist to the same degree as at present. Pus tubes and ovarian abscesses were not by ninety per cent. as common as they are now. There is no question that the multiplication of railroads, the artificial methods of living, conventionalities of society and the vice that prevails in great cities predisposes to these troubles. We know that gonorrhœa is exceedingly common, and we know the causal relation that it bears to pelvic inflammatory trouble. Again, I know that where I find only one railroad in a town, I find but few cases of advanced mischief. Where we have no railroad in a small city there is almost a total absence of such troubles. I know this, not from one year's experience, but from ten years' study and most careful observation. I have just returned from a small city with a railroad only for a few years, and I took pains to ascertain the presence or absence of pelvic inflammatory trouble. I was told by four respectable physicians that such a thing did not exist. I went from this town to a railroad and manufacturing centre, and examined some ten patients and found advanced mischief—everything in the pelvis worthless so far as physiological function was concerned. I allude to these cases for two purposes. I am not quite willing to say that they are wholly due to vice and the advance of civilization, or that they are wholly due to gynæcology, but they are due to both. Six of the ten cases had been treated by six of the prominent gynæcologists of America. Some had the cervix dilated and the uterus curetted. Another had had the cervix closed. All of these men have criticised my position on this subject. They have alluded to the fact that a paper has been read upon the subject by Dr. Price, saying that such methods have been criticised, and that certain troubles have been said to follow the treatment, and then have remarked that if the cases are properly selected and proper antiseptic precautions

adopted, such mischief does not follow. These are their criticisms on my observations, but the cases that I examined four days ago came from these very men. I have been on the alert, and have been making most careful notes and studies, and have had the assistance of not a few men of rare judgment and experience.

Take these specimens shown by Dr. Cushing with malignant disease, extending to the internal os, no doubt with disease of the tubes and ovaries, and yet no evidence of endometritis. I have removed fifty-four uteri for malignant disease, and with many of these have been associated pus tubes and suppurating ovaries, but in not a single case have I found endometritis that I could not wipe away with a piece of cotton or gauze. I have removed eighty-two huge fibroids, another condition accountable for the endometritis so often found. In about every case I have incised the uterus with the specific purpose of studying this subject. It is exceptional that I find that condition of affairs so much preached about and to cure which so much is done. Again, the men who talk the most about this subject, I venture to say, are the men who have incised the fewest uteri and have made the fewest microscopical observations. They talk loftily about scientific work and microscopical investigations, but some of them have never even extirpated a uterus,—had none to examine, none to take sections from. I do not mean to say that endometritis does not exist. I know better. I know that it begins as a catarrhal trouble at the vulva or vagina and extends to the cervix, to the endometrium, to the tube and ovary, and becomes a peritonitis, and this saves the woman by sealing up everything. The mischief, however, has been done before the treatment is commenced, and in many cases the treatment is responsible when done for fancied disease. I enter this discussion purely to call a halt in all this tinkering. I do too many sections to save lives, and I find too much mischief to keep silent on a subject of this importance. Teachers are continually saying, with my paper in view, that the cases have been improperly selected or improperly treated. The very class of cases that I am talking about are coming from these men. The Philadelphia uterus does not differ from the New York or German uterus. The author of the

paper this evening takes precisely the opposite position from what is taken in New York. In the presence of tubal or ovarian disease, if he recognized mischief above the uterus, he would not dilate, or drain, or make local applications. I agree with him wholly in this. In New York the cavity of the uterus seems to be considered venomous. Huge pus tubes may exist, but the condition of the cavity of the uterus must be relieved before the tubes are removed. It matters not what is beyond the uterus—it must be prepared, or these germs will crawl up and kill the patient from sepsis.

You will pardon me if I allude to an old experience. I presume that I treated hundreds of women at the Midnight Mission. I never dilated once or curetted once, notwithstanding they were courtesans and chronic inebriates, some of them on the town for ten years. I never made any local applications, but put them on good food and iron. They were kept clean. Some may have had the vaginal douche. Some had not conceived for three to five years. Some of them—say, two per cent.—had sections for the removal of tubes and ovaries larger than the uterus. Of this group twenty per cent. conceived within six months after leaving the institution. This was the experience that put me on my guard and made me give the subject that consideration that induced me to take the position that I now hold. The last author on this subject—a Frenchman—has distinctly said that there is no evidence of endometritis in these cases, although the tubal disease is present.

The author to-night has alluded to the simple and the chronic forms. It will require a careful analysis of cases and study of specimens to make such a classification. Aveling has written of nidation and denidation. If you examine one hundred uteri, how many will show nidation, how many denidation, and how many endometritis? You will find that they are different stages of the same retrograde change.

Puerperal peritonitis. I have watched a patient with puerperal peritonitis for three to five days, purging and using large intra-uterine douches. The peritonitis has continued, and I have opened the abdomen and found a pint of muddy fluid and some adhesions and lymph of recent formation. I have found a black and angry tube, a tube so

gangrenous that it could be peeled out of the crest of the broad ligament.

This subject is too great to enter into fully and completely, but I have expressed myself plainly just as I feel and just as I act. I do feel that we have too much gynæcological tinkering, too many gynæcological operations and too many gynæcologists. The older gynæcologists are not doing so much mischief because they are men of much experience and good judgment. They were all-around practitioners and general surgeons before practising gynæcology. It is the young men who graduate as gynæcologists who are doing the mischief, who have not had a varied experience in medicine, but want to do an abdominal section before even vaccinating a baby.

DR. NOBLE:

I wrote a note to Dr. Price, in view of this discussion, asking him to tell us how he would treat a case of fungous endometritis with resulting hæmorrhages, and particularly a case of endometritis following abortion, where more or less of the ovum, or where a portion of the decidua, is retained. I should like him to tell us how he cures these cases without the use of a curette, or the finger used as a curette in the cases of incomplete abortion.

DR. J. PRICE:

As a rule, the uterus empties itself. My experience in abortions is pretty much as that in midwifery. I am called to deliver a placenta, and when I arrive find it in the vagina. I have only exceptionally found the product of conception retained. Where such was the case I have removed it with my finger and washed out the uterus. As a rule, I have been able to do this with my finger. I draw the patient well towards me, and without an anæsthetic use the finger, which I consider the best curette in these cases. Cases of abortion, with moderate irregular bleeding, I treated on general principles, building them up and, perhaps, giving a mixture of ergot if the trouble has gone beyond five or six months.

DR. JOSEPH HOFFMANN:

I see here and there over the room a scalp peeping out through the hair, and pretty soon this condition will be attributed to some form of coccus. This would be as logical as to ascribe all cases of endometritis to infec-

tion. Suppose that these cases of endometritis are due to infection, how shall we get rid of the dirt in the vagina? We know that certain experimentalists resort to oxalic acid and permanganate of potassium, but it has been discovered that even this does not kill all the germs. If they are infectious, what can soap do? If oxalic acid and permanganate of potassium does not reach them, what will simple scrubbing do? If these germs are found all over, how is it that every woman does not have endometritis? This is illogical, for nothing is more certain than that many cases of endometritis are due to nothing else than mechanical conditions or physiological perversion. Dr. Noble criticises the gynecologists who use electricity, thereby cauterizing the uterus, and then Dr. Noble uses chloride of zinc. If there is any cautery more powerful than chloride of zinc, I do not know it. It is a most irritant caustic, is dangerous, and you cannot control it. Dr. Skene remarks that to stop the secretion does not cure the disease, and wants to know how far the caustics may go to produce cicatrization in the uterus, as they do outside. We all know that by caustics well applied we might entirely stop the secretion from the eye, but we should not have left a perfectly healthy membrane. How much more will strong caustics do this, if nitrate of silver and alum will? As to carbolic acid, we know that this agent is capable of producing necrosis and slough by external application, so why its intrauterine application is regarded with so much complacency is puzzling.

A word in regard to dilatation. It is said that we should dilate to permit a free flow of fluid. How many women are there who menstruate freely through an os no larger than the end of my pencil? There is abundant hæmorrhage, which escapes readily, which shows that operation is unnecessary. If the cocci are the cause of the trouble, will there not be increased danger from the lacerations caused by the dilatation?

Dr. Noble asks for proofs that dilatation causes subsequent trouble. I have watched a series of cases by certain operators, one of whom claims to be able to feel dilated veins in the broad ligament. If this is possible, he should be able to feel an enlarged tube and ovary. Now, when these same men have begun with the perinæum and cervix, going on to dilatation and curetting, and have

ended with abdominal section for pus tubes, is it not time either to stop claims for ultra-exact diagnosis or to confess that intra-uterine treatment may do serious damage when we least expect it so to do? Such are the facts. Though they may be ignored, passing them over does not reply to them or negative them.

DR. M. PRICE :

I rise to ask if it is admissible to report cases and point out the men who sit in this Society who did the work? If it is, I have eight or ten cases belonging to this Society and I should be glad to report them, men and all. With some of the cases I have had to persuade the patients that a criminal prosecution would end in failure and involve them in great expense, in order to save my brother Society men. I have a number of these cases that have been dilated and curetted by men in our Society. Dr. Noble asks for proof. I can give it to him if it is admissible. Piles of it, following the woman straight from the doctor's office to her bed in a distant city, and her life at death's door when I visited her, and a section necessary. The wonderful manipulative skill and diagnostic powers of this man could not detect the first symptom of disease, and he said to the woman in a most emphatic way, "All you need is dilatation and intrauterine applications and you will have a baby inside of eighteen months." That is one case only, but I have something short of a dozen of them.

DR. CHARLES P. NOBLE :

I am glad that the subject has elicited such full discussion. I wish to call attention especially to peritonitis after labor without involvement of the tubes. Last year I reported four cases in which there was peritonitis, and in three of which abdominal section was done, and in which there was found abscess in the broad ligament, the tubes being free and healthy. The fourth case was not conclusive. There was an abscess following abortion, which I opened in the loin. There was no fixation from the vagina. The only rational explanation was the breaking down of a lumbar gland. In three cases the abdomen was opened and the abscesses were evacuated by a second incision above Poupart's ligament. I can also refer to the post-mortem work at the Phila

delphia Hospital, done by Dr. Parish, in which there was a large number of cases of peritonitis without involvement of the tubes. I do not think that this is the rule even in puerperal cases. But this fact is the explanation of why in puerperal peritonitis the whole trouble often clears up and the patient gets entirely well without operation and subsequently bears children.

I am sorry that the gentlemen who took issue with the line of treatment for endometritis laid down in the paper did not tell us what they do for the cure of their cases. So far as I can make out, they allow their patients to run on until they get pus tubes and then remove them. We are, therefore, to conclude that the result of their plan of treatment is to multiply the number of sections.

With regard to the relative frequency of diseased appendages in cities and rural communities, there can be no question that greater frequency of these conditions in cities is due to the prevalence of gonorrhœa and puerperal sepsis. I do not think that this is new. Bernutz, in 1840-50, found these diseases prevalent in Paris. He established the whole pathology of pelvic inflammation before anyone thought of taking out the diseased tubes. If we had had careful investigations made ten centuries ago in large cities, I have no doubt the same diseases would have been found.

Dr. Price states that he has never seen the evidences of endometritis. That is a strictly pathological question to be settled by the microscope. Pathologists tell us that they find this disease, and the question is whether you will take the testimony of the naked eye or that of the microscope. I know, from my experience with the curette, that there is a marked difference in the endometrium in different cases. Frequently you will find nothing that can be removed, while at other times the softened, thickened endometrium literally comes away by drachms.

The contrast in these cases is so marked as to be convincing to anyone whose mind is constructed on ordinary principles.

I have taken out pus tubes in cases that have had dilatation, curetting or the perinæum sewed up, but that does not prove that the condition of the tube had anything to do with the operation. There was no proof that the salpingitis was not present before operation.

In regard to the use of caustics, I stated that I used chloride of zinc only in cases where the appendages had been removed and the function of the organ was gone. I do not advocate its use in functionally active uteri, nor would I use it in such cases. With reference to cicatrization from tincture of iodine or carbolic acid, Dr. Hoffmann seems to have an unusual experience in the use of these drugs. I have never seen sloughing follow the use of either of these agents, nor do I expect to have cicatrization result. The supposed danger of the destruction of the glands of the cervix and uterus is purely imaginary. In the paper I clearly pointed out that there was a distinction to be drawn between a uterine leucorrhœa from congestion and an endometritis where there is a positive lesion in the uterus.

REPORT OF TWO CASES OF LEFT INGUINAL COLOTOMY FOR OBSTRUCTION OF THE BOWEL. BY DR. M. PRICE. (See page 530.)

A PLEA FOR EARLY SURGICAL TREATMENT OF CANCER OF THE UTERUS. COMPLICATIONS MET WITH. BY DR. A. H. CORDIER. (See page 520.)

DISCUSSION.

DR. E. W. CUSHING, of Boston:

It seems to me that everybody here is agreed that vaginal hysterectomy is proper and useful, and should be done as early as possible. The whole burden of what I am from time to time saying and writing on this subject is to get the general practitioners to bring in their cases as soon as they find that they have to deal with a disease which resists ordinary treatment, in order to find out whether or not it is malignant.

The principal point in Dr. Cordier's paper is the great importance that he attaches to the removal of the tubes and ovaries as well as the uterus. I have not felt that this was of such great importance in cases where there was no disease of the tubes and ovaries and where the woman had passed the menopause. I have always tried to remove the appendages in young women, but where the woman has passed the menopause and the disease is distinctly limited to the cervix, unless the appendages can be removed with reasonable facility, I have not felt that there was any practical danger in leaving them. I am aware that theoretically the tubes can be considered part of the uterus, and theoretically

they should be removed, but it becomes a practical question.

In elderly people, at the end of what is sometimes a formidable operation, it becomes doubtful whether it is well to prolong the operation on account of the remote danger of involvement of the tubes, in view of the immediate danger of shock, suppression of urine, etc., from prolonged operation.

I had four vaginal hysterectomies, as well as four abdominal sections, in the week before I came here, and as the former illustrate points in regard to which I shall speak, I have brought the specimens with me. Surgically, I may divide vaginal hysterectomies into two classes—the easy and the hard. The easy ones are very easy, and the hard ones are likely to be very hard. The way to have an easy case is to get it early. The first specimen is from an easy case. The patient had begun to bleed, and I found a little growth as large as a filbert which I snipped off and had examined. It proved to be malignant and I removed the whole uterus. I have put myself on record in favor of the total removal of the uterus whenever cancer is discovered and proved to exist. When, in 1885, this idea was expressed to me by Martin, it seemed like a shocking doctrine, but when I saw these cases relapse after removal of the cervix alone, I decided always to cut as far from a cancer as possible. In an easy case I think that sutures rather than clamps are indicated.

The second specimen is from about an average case of malignant disease. Although no evidence need be offered as to the propriety of removing the uterus, even where the disease seems to be limited to the cervix, yet this case shows that the malignant disease extends high up even when examined with the naked eye, and the microscope would undoubtedly show it to extend still higher. Although a cervix operation could be devised to peel out somewhat more of the uterus, either by the operation of Gregg Smith, clamping the broad ligaments and cutting or burning out the diseased portion, or by the high amputation of Schroeder, yet, in order to get out all of the disease, you have to go above the large vessels, and when you have done that, it is a simple matter to remove the rest of the uterus.

The third specimen is from an elderly woman sent for curetting on account of a foul discharge. I explained to the family

that the disease was probably malignant, and had their consent to remove the entire organ if such should prove to be the case. The matter removed was found to be white and friable, and I immediately proceeded to remove the entire uterus. There was no difficulty at all. There were no adhesions, and the uterus was gradually pulled down and tied off. Both ovaries were removed. The whole uterus is enlarged, and there is no question as to the malignant character of the disease, which springs from the left cornu at the orifice of the tube. She has had twelve children.

The last specimen represents a difficult case. This patient was 30 years old, apparently in splendid health, and had recently become a widow. She had had some slight hæmorrhages, and thirty-five days before operation had been examined by Dr. Gilbert, of Quincy, who found malignant disease. A portion of the growth was removed and examined under the microscope. A few days ago I examined the case and saw that it would be a difficult operation, yet it seemed a pity to allow such a woman to die without an attempt being made to save her. On the next day, therefore, I removed the uterus. A month and more had been lost by the bad advice of an eminent surgeon, who, without seeing the case, counselled against any operation. That is a case which I think could not have been done with any form of ligature. It was a difficult and serious operation. The broad ligaments were hard and stiffened, whether from malignant infiltration I do not know. I passed as far as possible outside of this stiffness, and there was free bleeding from the uterine side after division of the broad ligament. Nearly the whole organ is affected, and I have grave fears that the disease will return. Nevertheless, I have seen cases as bad as this where the broad ligaments were apparently affected, and where it was necessary to go far out; and, in fact, in one case I cut an ureter, but the woman recovered and has had no recurrence. The ureter was turned into the bladder by a subsequent operation.

In regard to the different methods of operating, they fall into two great classes, namely, those where ligatures and sutures are used and those where clamps are employed. Many of the most dexterous operators, as, for instance, Martin, use sutures. I have repeatedly seen him remove the uterus

without the loss of more than a tablespoonful of blood, but at the expense of an amount of suturing which to any one less expert would involve a terribly long operation, as, in fact, it does. He opens the anterior and posterior cul-de-sacs and then with a needle sews the vagina and peritonæum together. He then rapidly puts in sutures, sewing up and down, working with two needle-holders and both hands. This is very pretty to see, but for most of us it would prolong the operation too much. Practically I have seen very little danger from cutting through the mucous membrane and no bleeding that could not be controlled by pressure forceps.

In regard to the fastening off of the ligaments, we have the method of Martin, who, by means of a curved needle, passes strong silk ligatures and ties them. Then we have the method of Schroeder, using a stout curved needle with the eye at the point, by means of which small portions of the ligament are caught and tied off. Such a case as the first, where the uterus comes down perfectly and where there are no adhesions, can easily be done in what may be called a classical manner. The uterus is brought down and the broad ligaments tied off in sections with catgut. They are so tied that each ligature holds in healthy tissue. The stump of the broad ligaments can be sewed into the roof of the vagina and the anterior and posterior walls united, leaving a roll of gauze in for drainage. I remember three cases in my thirty-eight where I could operate in this manner.

Fritsch has a method of cutting into the broad ligaments and tying the vessels separately. I do not know what kind of cases he has, but in many that I see it would be impossible to tie the vessels separately. He also has a method of splitting the uterus and dealing with each half separately. This might be convenient in the case of large uteri, but I think there would be danger of hæmorrhage or infection of the peritonæum.

The great question in putting on clamps is in regard to getting through anteriorly and separating the bladder so as to include the whole of the broad ligament. The method used by Dr. Price, as I understand it, does not differ essentially from that described by Gregg Smith and employed by other operators who use clamps. One point is in regard to the desirability of using one or more clamps. Péan uses a great many clamps.

Doléris, Richelot and Pozzi have devised special clamps for compressing the whole of the broad ligament. Of these special clamps there are two that merit special attention. The one invented by Dr. Price is a most powerful special clamp for the whole broad ligament. Gregg Smith's clamp is a beautiful one if you can use it. It locks at the upper extremity and is made on philosophical principles, for the broad ligament is thin above and thick below. The only criticism of this clamp is, that where you can use it, you do not need any clamp, as ligatures may be used. The cases in which I have been able to get in early into the anterior fornix so as to use the clamp have been few. I have found it necessary, as a rule, to apply one clamp, cut, pull down, apply another clamp and thus, perhaps, put two on each side and then pull the uterus out, retroverting it as Martin does in order to get at the upper part of the ligaments. Therefore, it seems to me that the point is this, that in easy cases where the uterus comes down readily we do not need any clamps. In difficult cases where we have to use clamps, it is well to use a single clamp if you can. If we cannot put on the single clamp, we can put on several clamps, and then we may be able to put the large clamp on behind the smaller ones and remove them. This I have seen done by Dr. Price. Nevertheless, if I have everything secure with two or three clamps on each side, I think it better to leave them. I once invented a clamp the blades of which could be introduced separately and locked and secured together, but practically I have preferred to have three or four pairs for each side and put on as many as occasion required.

As between silk and catgut for the ligatures, I think that there is no question but that catgut can be prepared as strong as necessary. It does not slip, as the swelling holds it in position. I prepare it by taking the catgut, soaking it in ether, then stretching it, testing the strength and removing the kinks, then wrapping it on reels and baking it at a temperature of 140° C. for three-quarters of an hour. It is then preserved in absolute alcohol to which has been added five per cent of glycerine. There it will keep permanently. It is so strong that I cannot break it. It is perfectly aseptic and it will remain for a week or ten days without being absorbed, and by that time the function of the ligature has ceased.

The advantages of the ligature over the clamp refer principally to the convenience of the patient, who is more comfortable without the clamps and escapes the pain and distress attending their removal. The clamp certainly causes a certain amount of discomfort, for two days at least. The whole point in applying the ligature is not to try and get too much. If one tries to include a large mass something will slip. If a little is taken at a time it can be tied off securely. The whole portion included in any one ligature must not be cut at once, but part must be left to hold the suture firmly.

In completing the operation I have felt it well to apply the general principles of abdominal surgery, that is to see that the parts are thoroughly washed out and that drainage is secured. I am aware that attempts have been made to complete hysterectomy without drainage, tightly closing the wound. Martin began that way and lost a number of cases, and then resorted to drainage. I have seen Olshausen close the opening, but he told me that his results were not what he should like. I have seen such good results from leaving the incision open that after the operation I use the irrigator, removing all clots, and then put in iodoform gauze. Instead of the long strips of gauze, I take a square of gauze and insert that like a bag and then open it and pack it with strips of gauze. The small pieces can then be readily removed and the larger piece can be taken out at leisure.

Now in regard to the complications of the operation. The narrow vagina, the long vagina and the big uterus have been touched upon in the paper. If the uterus is too large to be removed through the vagina, it must be removed from above. Disease of the tube has been fully dwelt upon. I have had two cases where I removed dermoids from below, one as large as an egg, the other as large as a billiard ball. If I had a case where there was a pus tube eight inches long and an abscess as large as a billiard ball, it would be easier for me to remove it from above; but I am aware that in France there has been a good deal of interest excited by Segond in regard to operating on many cases of salpingitis by vaginal hysterectomy for removal of the pus tubes in that way. This seems to me rather unscientific. The *Tribune Médicale* is full of reports on this subject. Some believe in it and some do not. I notice that so able a man as Doléris disapproves of it.

In regard to disease of the vagina and broad ligament, that is, of course, a serious matter. The vagina may be removed pretty freely, but if the disease shows a tendency to spread toward the vagina, there is a greater liability to recurrence; but that is no reason for not giving the woman her only chance. Some cases have recovered where it seemed that they could not. Every woman who wishes it has a right to have the attempt made for the entire removal of the disease.

Hæmorrhage is an operative question. If one is careful what he cuts and what he clamps, and does not go away until he sees that everything is clamped, there will be no hæmorrhage. Ligatures, if applied properly, will not slip.

I have never met with a wound of the rectum. I saw one made, but there was no difficulty in sewing it up.

I have met with wounds of the bladder. One of the specimens here to-night shows a small piece of the bladder. I have seen trouble with the bladder, more particularly where clamps are used. In three cases I have wounded the bladder, but there has been no difficulty in repairing it, catching the opening with several pairs of pressure forceps and putting in four or five sutures and bringing the wound together. In every case it has healed beautifully. In two difficult cases I injured the ureter. I did not know it at the time. In one case I was able to pass a sound through the urethra and out of the opening in the bladder and into the ureter, and then joined the parts together, covering in the sound. The patient recovered and is well. In the second case there was an opening in the ureter, but I could find none in the bladder. I therefore passed a sound into the urethra and pushed it through the wall of the bladder, where I judged the orifice of the ureter should be. I then passed it into the opening in the ureter and united the parts in the same way as above. The patient recovered without trouble.

I have had thirty-eight cases, of which one died that was under my care. I have had three others, whom I did not see after the operation, die in distant cities. One patient had had a good deal of morphine. There was no movement of the bowels, and I suppose that she got septic. One elderly woman died on the third or fourth day with symptoms of heart failure. One did not pass any urine

after the operation, and died. Both kidneys were found to be extensively diseased and cystic. The one case which I lost, died from pyæmia or something of that kind. The woman did well until the eleventh or twelfth day when she had fever, and on the thirteenth day a chill. The temperature reached 106° . Thinking that there might be some retained secretion, I washed out the vagina, separating the edges of the wound as high as possible. I suggested opening the abdomen, but it was declined by the family, and the patient went on for ten days with repeated chills, when she died. At the autopsy nothing could be found, except that at the end of the wound the bowels had closed over a little space in which there were ten to fifteen drops of grumous fluid. There were some dark clots in the veins of the broad ligament. That was all. There was no affection of any organ, no metastatic abscess anywhere.

DR. JOSEPH PRICE :

Vaginal operations early in their history were rather imperfect in result. The removal of ovaries or small cystoma by the vaginal method were usually incomplete or failures. Only a few in this country were successful. I remember some oöphorectomies in this town that were failures. The operator failed to remove one ovary and sometimes both.

Surgery has always clung to the surface, but now we have gone to the deeper regions and structures, not only in the abdomen but in the pelvis. The older ovariologists were afraid of the pelvic region, and but few of the prominent ovariologists dealt with the serious troubles that we so commonly meet with in the pelvis. For instance, Keith rejected pelvic operations. He simply condemned them unqualifiedly. So did Spencer Wells and other London operators. Dr. Homans, of Boston, who has done so many ovariectomies, has, as far as I know, done only one section for pus in the pelvis. I simply call attention to these points to show that surgeons were afraid of deep-seated operations.

I wish to call attention to a few practical points in the removal of the uterus and appendages. I find that most operators depend too much upon the cervix and instruments, volcella, hooks, etc. They should rely more upon their fingers. After opening Douglas' cul-de-sac, if they relied upon the finger as a guide, a director and a blunt hook

or tractor, they would not find the operation so difficult. A simple half-moon incision is first made fore and aft of the cervix. In these cases it is important to remove as much as possible of the vagina in order that you may keep away from the invaded structures. There is little danger of injury to the bladder if you are familiar with the relations of the bladder and the anterior vaginal wall. You may remember that at one time Sims thought that he could cure vago-cystocele by making a vesico-vaginal fistula by cutting away the redundant tissue, but he failed in his attempt in making the fistula. It is not necessary to perforate anteriorly until the finger is hooked over the broad ligament posteriorly and indicates the point at which you wish to perforate. The finger also serves as a guide and tractor to the interlocking forceps. In making the incision, I insist that we go as far from the malignant disease as possible.

As to the use of forceps. The long-handled ovariectomy forceps is very convenient in the simple and uncomplicated cases. The simple cases are those to which Dr. Cushing has alluded, where there is a capacious vagina and a free uterus. It is exceptional to find this in malignant disease. Many gynecologists still maintain that malignancy occurs principally in child-bearing women, but I cannot agree with them. Of the last fourteen cases in my experience only one had borne a child. My experience in the last two months is sufficient to contradict all the literature upon this point. Some of these patients have not been married, and there is no doubt in my mind that they were pure women. If you can upset the uterus and use the finger as a guide, you can perforate fore and aft and easily apply the forceps. You can then cut and deliver. In this way there is the least possible risk of injuring the bladder. The large hæmostatic forceps are very convenient for rapid work. If there is considerable fixation there will be difficulty in applying the long single forceps. The long ovariectomy forceps can be applied. The tissues are caught with forceps, divided to the point of the instrument, the uterus drawn down by the finger and another forceps applied, and finally finish at the surgical neck of the ovary with a small hæmostatic. My rule is to remove the ovaries and tubes in about every case.

In regard to ligatures, I have always felt

that it was our duty to speak as teachers (for we are teachers here), and everything we say is used; therefore, we should teach sound doctrine. We should use methods and materials with which the man of the least experience and the least judgment will do the least mischief and the greatest good. For the man in the country, with little surgical experience and little occasion to tie ligatures, I do not think that catgut should be advised, but silk is safe in his hands. I have now on my table a letter from a gentleman in the West, who lately witnessed a death on the table from hæmorrhage where the operator relied on catgut. That patient, in all probability, would have lived had silk been used. It is only a few men that can use catgut safely. Catgut is safe in the hands of such men as Dr. Cushing, but it is not safe in the hands of his pupils without experience and judgment. I insist that we should put the safest material in the hands of such persons.

Complications incident to the extension of the malignancy are very common. My vaginal hysterectomies have given me a store of knowledge which I did not before possess in regard to pelvic troubles. I find tubal and ovarian disease a very common complication of malignancy of the cervix, and I think that this gives a satisfactory explanation of the bowel obstruction that follows this operation. Dr. Coe has had two bowel obstructions in ten vaginal hysterectomies. This has given me considerable thought in regard to doing the operation wholly from above, where tubal or ovarian disease is recognized. We have no right to remove the uterus, ovaries, pus tubes and ovarian abscesses and leave behind bands of adhesion, fixed ileum and adherent omentum, such as we find in our suprapubic operations. We know that mischief must follow incomplete surgery. When the uterus is removed you have taken out the keystone of the vaginal vault, and there will be descent and contraction of all adhesions, and there are bound to be kinks in the ileum and about the sigmoid, if left adherent. I am rather inclined, where I find advanced tubal and ovarian disease complicating a diseased cervix, to do the operation from above. A vaginal incision may be made fore and aft and a chain suture applied on each side after opening the retro-peritoneal pouch, or an assistant may pass the forceps from below while the operator button-

holes over the points of the open blades, the assistant now clamping the broad ligaments. This I have twice done with success.

I have had fifty-three vaginal hysterectomies successful, but lost the fifty-fourth. I lost her from bowel adhesions and mercury. I carelessly used the vaginal douche while the peritoneal cavity was open, and in all probability left some of the mercurial solution. Peritonitis and obstruction followed and she died. Imperfect surgery in this operation is just as easy and as common as imperfect work in any other part of the body.

I unhesitatingly condemn the double method of operating. I do not consider the application of the forceps from below while doing the operation of clean extirpation as the double method. I know of recent cases in this city where men have worked for two or three hours from above and below. Such operations begin in doubt and always end in disaster. One vaginal hysterectomy in New York recently lasted seven hours. The vaginal and abdominal section method I unhesitatingly condemn. In all cases I insist upon the removal of the tubes and ovaries, for I know how prone they are to disease. It is a very simple matter to go above the surgical neck of the ovaries and include them in the clamp or ligature. It adds only a few seconds to the time of the operation. After removal of the uterus the ovary does not atrophy, but goes on as before, and it is an organ which will give rise to considerable disturbance.

Another word in regard to catgut. Keith used catgut freely in a large supravaginal hysterectomy. The woman suffered tortures for weeks, ultimately developed an agonizing cystitis and finally discharged knots of catgut from the bladder. In the hands of those who know how to prepare it, catgut may be an absorbable material, but it is not in the hands of all. Keith was a rare good surgeon and gave his undivided attention to his work and the preparation for it.

The drainage described by Dr. Cushing I like very much. Drainage in vaginal hysterectomy, as everywhere else, is of paramount importance. It is surprising what a large amount of fluid escapes after vaginal hysterectomy. It will soak through bandages and wet huge gauze pads. I have had cushions made two feet long, eighteen inches wide and four inches thick, of corrosive jute in gauze.

These are sometimes soaked through in twelve hours. They are then thrown into the fire. I had these made so as to avoid contamination of the linen. The forceps act as metallic drains. Then you may apply the gauze by the old method of making an umbrella and packing it with strips of gauze, or you may apply the gauze on the outside of each set of forceps and then between them. Thus there are three sets of gauze drains and two sets of metallic drains.

Injuries to the viscera are quite common. I received a letter a day or so ago, telling of a fistula of the small bowel made with the forceps. Had the operator used his finger as a guide he would not have had this accident. He evidently nipped the bowel. These fistulæ, as a rule, close. What Dr. Cushing has said about the repair of injuries to the viscera is wise, and can always be accomplished if done carefully, and should be done promptly.

In regard to the methods of the Germans, I would say that I have never recognized the wisdom of removing the spine to do a vaginal or pelvic operation. As an obstetrician, I have always found that I had ample space for any obstetrical operation or manipulation. We have the least diameter four to five and a half inches, and with our big hands we do a great variety of obstetrical operations, and I have always found that I have had the same liberty in gynecological work. I have never felt that it was justifiable to remove three or four bones of the sacrum to do a gynecological operation. I would rather go through the abdominal wall than to produce such disturbance of co-ordination as follows resection of the sacrum. The French operator referred to by Dr. Cushing has lost four of the thirty-four or thirty-eight cases on which he did hysterectomy for the removal of diseased tubes. That is a large mortality, but a satisfactory solution is found in the adhesions of the bowels, which are not relieved by the lower method of dealing with advanced tubal and ovarian disease. I am satisfied that many consider the old chronic tubal and ovarian disease with universal adhesions as malignant invasion when they find a diseased cervix. Not so. Such men are neglecting many cases that might be saved, because they find a fixed uterus, but this is not always an evidence of malignant invasion. They should look more carefully into

the history, going back five to ten years, before they reject the case as one suitable for operation.

In conclusion, I would present the following statistics which I have gathered:

VAGINAL HYSTERECTOMY.

A. Martin's clinic, Berlin,¹ *Frauen-Arzt*, 1887:

	CASES.	RECOVERED.	DEATHS.	INCOMP.	PERCENTAGE OF DEATHS. ¹
125 by Martin. 9 by Duvelius.	134	115	19	28	14.
H. Fritsch, Breslau	63	53	7	..	11.5

Frauen-Arzt, 1888:

	CASES.	RECOVERED.	DEATHS.	INCOMP.	PERCENTAGE OF DEATHS.
Schroeder . . . . .	..	..	..	..	16.2
A. Martin . . . . .	..	..	..	..	16.4
Olshausen, up to 1884 . . . . .	..	..	..	..	24.1
Fritsch . . . . .	..	..	..	..	11.
Leopold	48	45	3	..	6.2
Brennecke	18	13	..	..	..
Ott, Zeitschrift für Geburtsh. and Gynækol., Russisch, 1887	10	10	..	..	..

C. Winter gives the following statistics in *Berliner klinische Wochenschrift*, 1891:

	CASES.	RECOVERED.	DEATHS.	INCOMP.	PERCENTAGE OF DEATHS.
Olshausen	166	147	19	..	12.6
Schauta	65	60	5	..	7.
Fritsch	103	93	10	..	18.
Kaltenbach	60	53	7	..	3.3
Leopold	80	76	4	..	5.
Gusserow ³	67	60	7	..	10.4

¹ Of the 28 incomplete cases, 8 died shortly after the operation; in 4 of these the uterus was so degenerated it could not be removed entirely.

² See also table in Pathology and Therapeutics of Diseases of Women, by A. Martin. Translated by E. W. Cushing, Second Am. Ed., p. 310.

³ *Ibid*, page 1127.

Hegar's Book (*Vag. Hyst.*, 1881):

OPERATORS.	CASES.	RECOVERED.	DEATHS.	INCOMP.
Czerny	1	1	..	..
Billroth	3	2	1	..
Schede	2	1	2	..
Schroeder	7	6	1	..
Hofmeister	1	1	..	..
A. Martin	11	6	2	3
Baum	4	2	2	..
Lane	1	1	..	..
Olshausen	2	2	..	..
Total, 25 per cent.	32	21	8	3

VAGINAL EXTIRPATION, 1882.

American Journal Medical Science:

OPERATORS.	CASES.	RECOVERED.	DEATHS.	INCOMP.
Czerny	2	2	..	..
Billroth	7	4	3	..
Schroeder	8	7	1	..
Merike	1	1	..	..
Tarsini	1	1	..	..
Martin	12	6	3	3
Olshausen	6	6	..	..
Bauer	4	2	2	..
Lane	1	1	..	..
Kaltenbach	1	1	..	..
Bompiani	1	..	1	..
Bardenhauer	1	..	1	..
Total, 24.4 per cent.	45	31	11	3

Extracts from the *Frauen-Arzt*, 1886:

OPERATORS.	CASES.	RECOVERED.	DEATHS.	INCOMP.
Brennecke, of Magdeburg, 1882-'83	18	18	..	..
Schultze, of Jena, 3 after Freund, all fatal; 9 after Czerny, 1 death	12	8	4	..
O. Thelen, in Elberfeld, 1884-'85	6	6	..	..

DR. E. E. MONTGOMERY:

We are greatly indebted to the author of this paper, not only for the manner in which he has dwelt upon the importance of early operations in cancer of the uterus, but also for the interest and pleasure which we have derived from the discussion by Dr. Cushing and Dr. Price. As has been said, the view

adopted at the present day, is that when one portion of the uterus is the seat of malignant disease, the whole organ should be removed. This is certainly as definitely indicated where the disease involves the uterus as where it involves the breast.

In the operations that I have performed, I have used the clamp exclusively. In the first case on which I operated, I applied a number of forceps; I believe eight in all were used. Since then I have used the modified Gregg Smith clamp, and although some of the cases were complicated, yet in none was there any special difficulty in applying the clamps. The clamp is removed at the end of twenty-four hours. By this time the tissues are sufficiently crushed, so that the probability of hæmorrhage is slight, and in none of my cases have I seen the slightest tendency to the recurrence of bleeding.

I have seen no injury to the rectum or intestines, and only once have I had an injury to the bladder. This was in my second operation. An assistant was holding a sound in the bladder, and to my surprise I saw the end of the sound in the vagina. The injury had no influence on the subsequent progress of the case.

Of the nine patients on whom I have operated, one died. This was from tetanus, on the fourteenth day.

Reference has been made to the removal of the uterus and tubes by the operation of sacral resection, and the gentleman who spoke of it said that he had not found it necessary to remove three or four sections of the sacrum for that purpose, and that such an operation would be followed by disturbance of co-ordination. I quite agree that if three or four segments of the sacrum were removed, incoördination would result, as by so doing a portion of the sacral plexus would be injured. If the operation is done as recommended by the removal of one side of the lower two segments, the only nerves injured are those supplying one side of the bladder and rectum. In those cases where the nerves of one side are left, but little inconvenience results. I have done this operation three times—once for the removal of the uterus, in a case where the rectum was also involved; once for the removal of the uterus alone in a case of undilated vagina, where there was disease of the tube and ovary, and once on account of disease of the rectum, and in this

case I made an artificial anus posteriorly. In neither of these cases has there been any incoördination after recovery. In the rectal case the patient lived for six months after the operation. I fully agree with the gentleman that the operation has not a very extended application, and in cases where the uterus and tubes are to be removed, I question whether I would not prefer to open the

abdomen and perform the operation from above, rather than remove a portion of the sacrum and coccyx. I only speak of this matter in justice to the procedure itself, as in my experience it has not been attended with the objections mentioned.

ELLISTON J. MORRIS, M.D.,

Secretary.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

CONDUCTED BY RICHARD C. NORRIS, M.D.

ORIGINAL COMMUNICATIONS.

A Contribution to the Study of Marasmus, with Four Cases.

BY W. HENRY PRICE, B.A., M.D.,

*Assistant Physician to the Children's Dispensary of the University Hospital,
and Physician to the Out-patient Departments of St. Clement's
Hospital and the New Rush Hospital for Consumption.*

SIMPLE atrophy, or, as it is more popularly called, especially by the laity, marasmus, is always an interesting subject, from the fact that it forms no inconsiderable proportion of the cases which are seen and treated by physicians who make a specialty of handling children.

Strictly speaking, of course, marasmus is only a symptom which is characterized by a wasting of the soft tissues of the body. This is the effect. The cause may rest either with the child or with its food; it may be due to some special organic lesion, such as catarrhal inflammation of the gastro-intestinal tract, or to a true inadequacy in the powers of assimilation—perhaps, at times, to a specific diathesis.

Cases of simple atrophy are daily seen in private practice, but, in a dispensary service especially are we apt to come across varied and instructive manifestations of this affection, perhaps, because it is among the poorer classes that it finds its most frequent expression.

From quite a goodly number of those cases which have come to the Children's Dispensary of the University Hospital, during the past winter, in the service of Professor J. P. Crozer Griffith, a few illustrative cases have been chosen to point out the usual picture which this malady presents, and to give the methods of treatment adopted, with their results.

Wasting often begins in the second year of life (in which case it usually is

of specific origin), but more frequently it is met with during the first twelve months; and probably the majority of our cases have borne out this latter fact, and have also emphasized the idea that it may come to those who are fed upon the breast just as likely as to those who are bottle-fed, the cause being, in either case, insufficient nutrition.

If the fault does not lie in the baby's power of assimilation, this insufficient nourishment may come from two causes: first, food may be supplied in quantities too limited to meet the demands of the system; or secondly, it may contain too small an amount of those elements essential to nutrition, or be presented in a form ill adapted to the feeble digestive powers of infancy.

This latter proposition is only too often demonstrated in the cases which present themselves for treatment; and rarely do we need to seek for a further explanation of the baby's condition, when the mother tells us that "she found she was too busy to keep on nursing her baby," so that at eight months of age it was placed upon the general table-food of the family (including, no doubt, a full share of corned beef and cabbage), to avoid the trouble of preparing a special meal for the child.

The following case will illustrate this very well, and shows how mothers utterly fail to recognize that there is a vast difference between the digestive powers of infancy and adult life:

January 19, 1892, a baby, 2 years of age, was brought to the dispensary by its mother, who said that she could not understand why her child had wasted so much. Her statement was that his bowels had been very loose ever

since he was weaned, and that he invariably vomited within ten minutes after eating. Upon questioning the mother, it was ascertained that at eight months of age the baby was weaned from the breast (up to which time it had been perfectly well), and placed upon the same coarse table-food which its parents were enjoying. Thus, while the child was apparently being overfed, it was in reality slowly starving to death, for the "*food*" which it was allowed to eat was no less than poison practically, and what was not vomited was purged out. And it was not until the mother grew so anxious about the marked loss of flesh, and her attention was called to the absurdity of such a diet, that the thought ever entered her head that she was putting stuff into her baby which its stomach would not countenance.

The result of treatment proved the theory to be correct. The child was limited to a bread-and-milk diet, and with the medicinal aid of a little bismuth and pepsin temporarily, showed immediate improvement. The diarrhœa and vomiting stopped and its flesh was rapidly regained, much to the satisfaction of its mother.

One would say that this woman must have been extraordinarily ignorant and careless, and this cannot be denied, but such an occurrence is by no means an infrequent one.

Dr. Griffith tells of just such a case, which he saw in the clinic of Prof. Monte, in Vienna. A woman brought her babe to the Professor's clinic, very much emaciated, and looking as though it could not possibly do anything but die. Prof. Monte asked her what the child had been fed upon, and her reply was, "Potatoes and horse-

flesh!" The line of treatment indicated was manifest.

Another interesting case, treated at the University, was the following:

March 14, 1892, Warren S., aged 8 months, was brought to the dispensary with a history of having been fed upon the breast until 3 weeks old, when he was put upon condensed milk, alternating with the breast.

After this change was made he became constipated, having only one difficult movement a day, and hard scybalæ were nearly always present in the stools. The mother gave him magnesia frequently, which kept the bowels loose for about three weeks, producing two or three loose actions each day; but these were followed by a watery discharge with hard scybalous lumps, streaked with blood and mucus. For the previous three months the baby had had pain and tenesmus at stool, and during one of these straining efforts only the week before coming to the dispensary, it had a severe convulsion. The baby by this time had lost considerable flesh, and was a source of great worry and anxiety to its mother.

At first our treatment consisted simply in the administration of a laxative, composed of sulphate of soda, six grains, and fluid extract of senna and cascara sagrada, each five minims, three times a day. At the expiration of one week the mother reported that under the influence of this mixture the bowels became regular and easy, but colicky pains and abdominal distention were still present, showing that the *cause* of the trouble had not been removed; and further, the mother stated that since her last visit the infant had had a second spasm. The laxative was then stopped, and a

mixture ordered, containing in each dose—sod. bicarb., gr. ij; spt. chloroform, gtt. j; aq. menth. pip., f ʒj, with the additional action of bromide of potassium, gr. ij, three to five times a day, to lessen the tendency to spasm. He improved upon this, and at the subsequent visit a flannel bandage was ordered; and now the child was put upon the milk mixture recommended by Dr. Rotch, with an additional amount of sugar for the constipation.

Upon this milk the baby rapidly grew better. Pain and abdominal distention disappeared, the bowels became normal in the number of movements, but showed some casein present, and the actions not being quite so easy as we deemed desirable, the original laxative, cascara mixture, was cautiously used with great satisfaction. The child was greatly benefited, mainly by the change in the milk.

This, like many other cases, shows that any medicinal treatment is futile unless accompanied by a rational change in the diet; and after this is done, drugs play only a secondary part, except in some special cases where urgent symptoms, such as intense colic, vomiting or excessive diarrhœa, demand their employment.

A third case, which we studied with the greatest interest, indeed with more interest than hope, for the infant's condition was so alarming that it seemed almost moribund at the start, was that of a young baby, 5 weeks old, of good family history, which had been fed upon the breast, but became so emaciated that while at birth it weighed ten pounds, its weight then was only about eight pounds, and it was a veritable picture of skin and bones, without the slightest exaggera-

tion. The mother's life was made a burden, for the child cried incessantly with pain, day and night, and neither one obtained sleep of any account for days at a time. The parents' whole time was spent in walking the floor, trying to pacify the screaming sufferer. Besides colicky pains and great abdominal tympanitis, it had an eruption of large vesicles and pustules upon its head, face and neck, and its bowels were very irregular, being either constipated or else very loose, the movements being of a green color and bad odor—evident signs of intestinal indigestion.

Sodium phosphate was ordered, together with codliver oil and syrup of the iodide of iron as a tonic, but with very little hope of any improvement. This was on the 23d of September, 1891. At the end of a week the baby was no better, green diarrhoea was still present and curds were noted in the stools. Then aromatic sulphuric acid was tried, but to no avail, and the child came back in another week with a fresh crop of boils upon its back and scalp.

Up to this time the baby was allowed to continue feeding at the mother's breast, for an examination of her milk showed that it was apparently up to the standard in both quantity and quality; but it became evident by this time that, for some unknown reason, the breast-milk certainly did not agree with the child, so we took it away from the breast and put it upon an artificial milk, made in the following proportions:

Rx. Cream,	f3i.
Milk,	f3ij.
Water,	f3ij.
Lime-water,	f3i.

Of this, two ounces were given every three hours.

In ten days the patient was much improved, the mother stating that the only thing which bothered the baby was the remains of some colic, for which we now ordered a little bicarbonate of soda, and directed the mother to continue with the artificial milk.

Two weeks more elapsed and the mother reported that the child was doing well and steadily gaining flesh. The bowels were regular, but some pain still persisted, so it was thought advisable to change somewhat the formula of the diet, and accordingly the quantity of milk was reduced, with a corresponding increase in the amount of cream and water, following very closely Rotch's proportions, with the omission of the sugar, on account of the diarrhoea present. This formula was: cream, $1\frac{1}{2}$ ounces; milk and lime-water, each 1 ounce, and water, 4 ounces. Two ounces of this to be given every two hours, previously boiled.

After a month of this treatment the baby looked so much better, we scarcely recognized it as the same infant that had been brought for the first time, nine weeks before, almost a living picture of death. The vomiting and diarrhoea had entirely ceased, the child having two natural movements a day, of normal color and consistence, and the patient looked brighter and better in every way, having already gained considerable flesh.

This was a very instructive case, and showed us how useless all drugs were to relieve the child's suffering, until that combination of albumen, fats and carbohydrates was found, which was applicable to this particular emergency.

Later in the winter we had another case of wasting in a very young baby, where the fault seemed to lie again

with the *quality* of the mother's milk. January 22, 1892, an infant, eight weeks old, was presented for treatment, with emaciation, vomiting and disturbance of the intestinal tract, accompanied by a squamous eczema of the flexures of the body. The mother noticed her milk was thin and watery, and that it did not seem to satisfy her baby. The infant vomited the breast-milk, and the bowels were constipated. The food was changed from breast-milk to an artificial milk, with some sugar in it for the constipation. Along with this a dusting powder of bismuth and zincozide, each two parts, and boracic acid one part, was ordered applied night and morning, and this proved very effectual in promptly curing the eczema.

The formula of the artificial milk used was: Cream, 3 parts; milk, 3 parts; lime-water, 2 parts; sugar $\frac{1}{2}$; and water, 8 parts. Of this mixture, two ounces every three hours were given.

Six weeks afterward, the mother returned to report the child well in every respect.

Here was a case which gave prompt and satisfactory results from mere change in diet, and where no drugs were used internally, whatever.

The question of infant feeding has been much discussed, and the best substitute for mother's milk has been for many years a subject greatly mooted. Age bears such a close relation to feeding that this point must not be lost sight of. Idiosyncrasy, too, is of the highest import in selecting an appropriate food. The cases cited above show clearly that an iron-clad formula is not always applicable, and frequently our ingenuity is taxed to its utmost in finding out just what proportions are most suitable for the individual case; and experimentally

we must try to discover the special idiosyncrasy of the infant in question, by changing the percentage of the fat, casein, sugar or ash.

Many claim that condensed milk far exceeds other combinations, but it must be admitted, I think, that those who have given this subject their most careful attention are agreed that condensed milk is not the best preparation by any means. Thus, Dr. Louis Starr says that he believes "there is no case which does well on condensed milk but that would do even better upon a properly modified cow's milk. It is supposed to be more easily digested by young infants, but this supposition is a mistaken one, and arises from the overlooked fact that condensed milk is always given dissolved in a large proportion of water, while cow's milk is too frequently used insufficiently diluted, or otherwise improperly prepared." And further on he says: "Condensed milk does not contain enough nutrient material to supply the wants of a growing baby."

The analysis made by Dr. Arthur V. Meigs shows "that condensed milk, as ordinarily used (one teaspoonful to six tablespoonfuls of water), contains a less amount of caseine and fat than either human or cow's milk, and that if the proportion of condensed milk be increased sufficiently to overcome this objection, there will be present a quantity of sugar, which will be incompatible with perfect digestion."

Dr. T. M. Rotch, instructor in Diseases of Children in the Harvard Medical School, says: "Condensed milk is one of the most interesting foods with which we have to deal. . . . The nearest approach to the standard is obtained by diluting it

with six parts of water, which gives the proper per cent. for albumen, sugar and ash, but the fat is still much reduced, and unless supplied in some other way, the nutrition suffers.

. . . The testimony of those clinical observers who look beyond the temporary digestion to the subsequent nutrition of the child, supports the view that condensed milk, even if we set aside the objections which, in general, arise from its being a patent food, must be modified by more than the addition of water before it can be safely given as a continuous food to the average infant. . . . The addition of indefinite amounts of fat to a food is to be deprecated, and we should seek for a better combination than is offered in condensed milk."

Dr. J. P. C. Griffith, Professor of the Diseases of Children in the University of Pennsylvania, and Physician to the Children's Hospital, says that in the latter institution "all the cases of pure inanition which have come under his care have been condensed milk babies;" and he has seen such unhappy results come from this kind of feeding that he often says he "believes condensed milk is an invention of the devil."

After a general review of the subject, perhaps Dr. Rotch's formula is the most generally applicable substitute for breast-milk; and since this is based upon a careful analysis of healthy mother's milk—by Dr. Chas. Harrington, Harvard's chemist—it seems but rational that good results should obtain from its use.

This formula is—

Cream	2 parts.
Milk	1 "
Lime-water	2 "
Sugar-water	3 "

It is better to add the lime-water after the milk mixture has been sterilized by steam.

The sugar-water is made by dissolving $17\frac{1}{4}$ drachms of milk-sugar in one pint of water.

Having satisfied ourselves as to the proper combination to be used, another important question is, "How much shall we feed the baby?" Sznitkin, after a series of careful investigations in the Children's Hospital at St. Petersburg, to determine the amount which is best adapted to the first thirty days of life, finds that "the greater the body weight, the greater is the gastric capacity." From his studies he finds that one one-hundredth of the weight at birth should be taken as the starting figure; and to this we must add one gramme for each day of life. For example, taking 3,000 grammes (about $7\frac{1}{2}$ pounds) as the initial weight, $\frac{1}{100}$ of this would be thirty grammes, and at thirty days of age (adding one gramme for each day) would be $30 + 30$, or 60 grammes, or about 2 ounces.

Then, the other half of this question is, "How often shall this amount be given?" The same observer states that "the younger the infant the greater the metabolic activity, and hence the greater need for frequent feeding; for nutriment is required, not only for the excess of waste, but also for the rapid proportionate growth. This makes the intervals of feeding a factor of considerable importance in the management of an infant's diet."

Harmonious with these two facts, Dr. Rotch has constructed a very convenient table, which we have used in our dispensary work, showing the amount and frequency of feeding during the first year of infant life.

TABLE SHOWING AMOUNT AND FREQUENCY OF FEEDING DURING THE FIRST YEAR OF INFANT LIFE.

AGE.	Interval.	Feedings in 24 hours.	Amount at each.	Amount in 24 hours.
First week	2 hours.	10	1 ounce.	10 ounces.
First to sixth week	2½ "	8	1½-2 "	12-16 "
Sixth week to sixth month. .	3 "	6	3-4 "	18-24 "
At six months	3 "	6	6 "	36 "
At ten months	3 "	5	8 "	40 "

208 South Thirty-seventh Street.

CLINICAL MEMORANDUM.

Children's Hospital.

Service of Drs. SAMUEL ASHHURST and LOUIS STARR.
 [Reported by JOSEPH C. BLOODGOOD, Resident Physician.]

CASE I. — MALIGNANT SCARLATINA, WITH SYMPTOMS OF STENOSIS OF LARYNX; DEATH, GENERAL CONVULSION; TEMPERATURE 107° IN A FEMALE CHILD, AGED 4½ YEARS.

Eugenia S., aged 4½ years, white, female, only child, delicate, marasmus at six months, followed by convulsions at irregular intervals until one year ago. Health better since.

The child was brought to the hospital at 2 P.M. on April 12, 1892, by the family physician, for tracheotomy, he having diagnosed membranous croup.

This history was taken: The child had been troubled with slight catarrh for some weeks. Yesterday had some fever and malaise; at 2 P.M. last night awoke suddenly with a croupy cough

and some dyspnœa; early this morning a bright-red rash appeared. The physician saw the child at 1 P.M., and immediately brought it to the hospital.

The condition on admission at 2 P.M., twelve hours after the onset: child large, well nourished; face much flushed; eyes injected; entire body and extremities covered with a deep erythema, which disappeared on pressure, and a thickly-scattered, pin-head bright-red papule, not disappearing on pressure; throat very red; anterior pillars injected; tongue slightly coated; a noisy laryngeal respiration; no voice; a croupy cough; some sucking in of suprasternal and infra-sternal notches, intercostal spaces and abdominal walls below ribs. The dyspnœa was, however, not very

urgent. The temperature was $99\frac{2}{3}^{\circ}$; pulse, 125; respiration, 30.

The child was taken into the croup room, and put to bed, while preparations were made for a tracheotomy. In less than fifteen minutes the temperature was taken; it was 104° in the rectum. In a few minutes the child went into a convulsion, involving the entire right side, beginning in the right hand; pupil contracted; tongue bitten; unconsciousness became complete; the cyanosis and sucking in of chest more pronounced; in about twenty minutes the convulsion began in the left side, first involving the hand, then arm, shoulder, face, body, and lastly the leg. The right side now was limp, pupil dilated, left contracted. This convulsion lasted one and a half hours. The temperature reached 107° , pulse was 160, respiration 40, the symptoms of stenosis all the time becoming greater. Child then lay completely relaxed, not one reflex present; pupils half dilated. In almost ten minutes convulsive twitchings began in the right fingers, and slowly extended up the arm; the eyelids twitched; the face was jerked; the tongue was bitten; the body and leg followed with similar convulsive movements; the breathing became

much worse; the pulse rapid and nervous; the feet cold; the temperature still 107° and continued to grow weaker. All convulsive movements stopped, but respiration continued till death came, two and a half hours after admission. The rash faded about one hour before death.

The treatment seemed to have had no effect. One grain of calomel was given immediately on admission, and in an hour there was a large watery stool. The child was given a hot pack; turpentine stupes were applied to the feet; bromide and chloral were administered by mouth and rectum.

The question of operative interference was a difficult one. Was the convulsion due to the scarlatinous poison acting on a susceptible nervous system, or was it the result of the carbon dioxide poison caused by the obstruction? When the dyspnoea and the sucking in of the chest became very marked it was decided to operate, the convulsion not being considered a contraindication; but on account of delay in getting parents' consent the child died just before it was to be taken to the operating-table. The rash had almost entirely disappeared. No post-mortem was allowed.

SOCIETY PROCEEDINGS.

New York Academy of Medicine—Section in Pædiatrics.

DR. WM. P. NORTHRUP, CHAIRMAN.

Meeting of May 12, 1892.

DR. J. LEWIS SMITH presented a case of ranula. The patient was twenty months of age and the growth was first noticed when the child was but a few weeks old. It had caused no interference with nursing, but was steadily growing and was now producing considerable deformity by causing the mouth to be open, giving the characteristic frog-like expression. The child did not talk, although of ordinary intelligence. Development was somewhat retarded, and for three months there had been no increase in weight. The tumor was double, occupying both sides of the frenum, and apparently very vascular. Large vessels could be seen radiating over the surface. Two operations were available. One consisted in passing a silver wire around and through the mass so as to obliterate it by causing inflammation; the other was excision of a portion of the growth, but owing to its extreme vascularity, serious hæmorrhage was to be feared.

DR. G. BARUCH thought the danger of hæmorrhage was not great, and favored the excision of two-thirds of the mass.

DR. HENRY KOPLIK presented a case of microcephalus. The patient was the sixth child, the others being normal in all respects. It

was four months old. The sutures were closed, but the anterior fontanelle was still open. Left facial paralysis was marked, and there was spastic rigidity of the lower jaw. The peronei muscles were undeveloped, causing marked deformity of the legs. The reflexes were increased, and there was also spastic contraction of the fingers. Nystagmus was observed, but was not constant, appearing only when the child looked toward the left. The probable condition present was microcephalus, with congenital retarded development of the cerebrum, with involvement of the pyramidal tracts. The question of a Lannelongue operation was a very important one. The speaker believed that the nervous symptoms indicated lack of brain development, and that nothing would be gained by operating on the skull.

DR. W. M. LESZYNSKY believed that the Lannelongue operation was a very serious one. He had recently seen two fatal cases. In the present case he did not believe that an operation upon the skull would aid the brain, which was evidently an undeveloped one.

The subject selected for discussion was Summer Diarrhœa in Children under two years.

DR. HENRY D. CHAPIN read the first

paper, entitled, Relation of the Stools to the Lesions; Nervous Symptoms and their Origin.

When the diseased condition is confined to the two extremities of the alimentary canal—the stomach and the lower segment of the large intestine—the discharge will quite surely locate for us the seat of trouble. In the intermediate tract, however, it is usually difficult to judge with certainty either the extent or location of the lesion by the character of the stools. A classification that can be made only upon post-mortem examination is of but little value clinically. The following is a fair clinical classification, and includes the vast majority of our cases:

(1) The diarrhœa of acute indigestion.

(2) The diarrhœa of inflammation.

(3) The diarrhœa of chronic indigestion or atrophy.

In the first the stools consist of thin fæcal matter, soon becoming thin and watery, and containing particles of undigested matter, consisting chiefly of lumps of fat and undigested caseine. If these undigested masses continue to be passed, the stools soon contain more or less thin mucus. If starchy food has been given it may be passed unchanged in appearance. In general, the passages in acute indigestion consist of undigested and fermenting food and the products of an irritated mucous membrane.

There is a point where irritation, if unchecked, becomes inflammation, and the second form of diarrhœa is developed. It is difficult, here as in other places, to always distinguish that point. When well developed the temperature will remain elevated. The passages, if milk is the food, will contain masses

of fat and lumps of curd. If milk is stopped and meat broths are given, the passages usually become darker colored and contain very offensive feculent matter. Mucus, in various conditions, soon becomes a prominent element. If colored with bile pigment it is an indication of jejunal or iliac catarrh, and is usually accompanied by undigested food. The closer the mixture of the mucus with the fæcal masses the nearer is the lesion to the cæcum. When the lower colon is most involved the mucus will be more distinct, passing in glairy masses, or sometimes in pulpy, shreddy particles, presenting the appearance of false membrane. Blood, if mixed in streaks, comes from the ilium or upper colon; if free and red, from the lower colon or rectum.

White, dryish, putty-like stools consist principally of fermenting fat; brownish stools of albuminous matter from animal broths, frequently very offensive from advanced decomposition. The yellowish, watery stools are simply the ordinary fæcal discharges diluted. The causation of green stools has been a subject of much controversy. However caused, they are clinically noticed in connection with much irritation of the bowels, with active fermentation of their contents.

The presence or absence of ulceration cannot be determined with certainty from the character of the passages. When there is rapid loss of vitality, out of proportion to the number and character of the stools, ulceration is to be suspected.

The most persistent form of diarrhœa, and the most difficult to treat, is that resulting from chronic indigestion and atrophy. Putty-like stools

alternate with green, mucous, or brownish offensive discharges. Assimilation becomes more and more defective, and the child dies from exhaustion. The underlying trouble is defective vitality, not inflammation, and antiseptics and astringents are useless.

The nervous symptoms accompanying summer diarrhoea are numerous and often serious. Impoverished blood, passing sluggishly through the brain, will account for some of them. It is probable, however, that, as a rule, these symptoms are due to irritation produced by toxæmia. Such toxæmia may be caused by the absorption of ptomaines resulting from fermentation in the bowel. The brain symptoms thus produced often disappear upon thoroughly clearing the bowel. Uræmic poisoning is also responsible in some cases for brain symptoms and death.

DR. SIMON BARUCH read a paper entitled, Hygiene; Symptoms Demanding Baths and Change of Air. As the chief aim and purpose of modern therapeutics is the removal of the cause of disease, a consideration of the insanitary conditions which actively contribute to the development and maintenance of summer diarrhoea becomes of great importance.

A change of air is not demanded by reason of any special difference in the proportion of oxygen or other chemical constituent, but rather to avoid two sources of error:

(1) A high temperature and marked humidity, one or both.

(2) The presence of impurities.

Whenever treatment seems unavailing, and prostration and intermitting fever are present, the question of a

change of air becomes important. Of what avail are stimulants, tonics and food when the little sufferer is forced to toss under the constant oppression of a stifling atmosphere, especially if there be also an excess of moisture? Rich and poor alike are crushed under this terrible combination. Removal by a rapid and comfortable journey to a high altitude or to the seashore, free from these prejudicial conditions, becomes imperative in many cases. The change in the entire aspect of the case is too well understood to need comment.

Among the well-to-do classes atmospheric impurities are rarely operative in summer, though imperfect ventilation often breeds them in winter. In the tenement districts of large cities, however, this is an active factor. In these noisome tenements in which the children of the poor, and many even of the better class of working people, are huddled together, the elements which contribute to the development and maintenance of summer diarrhoea find an excellent place for their culture and propagation.

The elements demanded in the prevention of this disorder are clean food taken into a clean stomach, and its detritus removed through a clean intestinal tract. It is to obtain these conditions, not more oxygen, that a change of air is demanded. The work carried on by the St. John's Guild is deserving of the utmost commendation. To the poor this change from the filth-laden atmosphere of the city to the pure breezes of the harbor comes as a refreshing and vivifying blessing that cannot be overestimated.

One point in this connection must be noticed. While of the utmost importance in the tenement districts, it

is not always so important where the conditions are more favorable for home treatment. The change from a comfortable home to a country hotel, often overcrowded, is not to be advised without careful reflection. The benefits accruing to the little patient do not always warrant the expense, anxiety and disturbance of family resulting from a sudden removal of a child, without due preparation, when the symptoms become alarming. The advantages and disadvantages should be carefully considered. We should see that the milk is sterilized, that the colon has been irrigated, and that all measures have been tried before advising a change.

The lessons derived from a long experience at a summer resort are two:

(1) While all cases of summer diarrhoea of infants living in crowded homes demand change of air, treatment is, at least, equally important.

(2) Among the better situated, change of air need not be insisted upon until all approved methods of treatment have been fairly tried.

Bathing for cleanliness is always demanded in summer diarrhoea, both for the purpose of cleanliness and, by maintaining the functions of the skin, to relieve intestinal congestion. For therapeutic purposes baths are especially indicated in acute cholera infantum, for they offer more positive relief and contribute more to cure than all other measures. In this condition we find hyperpyrexia, though the extremities and face may feel cold and clammy. Whenever the temperature exceeds 102° F., a cooling procedure is indicated, and it is important that the proper method of bathing be observed. The child should be placed at full length in a tub of water,

at 90° , after the face and head have been bathed with ice-water. Gentle friction should be constantly applied while some one is removing with a pitcher the tepid water and replacing it with ice-water. The temperature of the water is thus gradually lowered to 80° . If cerebral symptoms are present, water at 60° should be poured over the head and shoulders. The bath with friction should be continued fifteen minutes, unless cyanosis of the face or decided shivering appears.

The latter is prevented by active friction. After the bath the child is placed upon a linen sheet laid smoothly over a blanket. If the temperature before the bath was 103.5° , or over, it should be wrapped and allowed to dry; if under that, it should be dried and the clothing replaced at once. It should be understood that the object of the bath is not primarily to reduce temperature, although this is an important incidental result. We have here a vaso-motor paralysis, as evinced by the pallor of the skin when the rectal temperature is high. This condition is counteracted by the bath and friction as described. The effect of a skillfully-administered bath in such conditions of nerve prostration must be seen to be appreciated.

In the subacute forms of summer diarrhoea the chief condition indicating baths is the general depreciation of the system arising from the great drain upon the blood and nerve-tone. We here have the symptoms of chronic adynamia. To stimulate the appetite and improve the general nerve-tone should be our endeavor. The most approved tonics often fail. In these cases general ablutions, morning and evening, are preferable

to baths. The child is placed on a soft woollen blanket, and the abdomen, chest and back are rapidly bathed, not sponged, as follows: From the hollow of the hand water at 70° F. is poured upon the skin, which is then gently rubbed with the same hand. The body is rapidly dried and friction with a rough towel is employed if the temperature is below 99.5°. If the temperature is above 102° a general bath is indicated.

Dr. J. M. MABBOTT read a paper upon the use of drugs, especially the indications for alkalies, acids, astringents and opiates. During recent years much time and thought has been expended in the investigation of that much-vaunted class of drug, the antiseptics and antizymotics. It was early believed that it would be difficult to find an antiseptic capable of internal administration, in doses sufficient to kill microbes without proving poisonous to the patient. Baruch, five years ago, referred to the large quantity of antiseptic necessary to sterilize so extensive a surface, and Vaughan showed the feeble inhibitory power upon the tyrotoxon-producing germ of all the antiseptic drugs. Holt has pointed out that by reason of absorption the soluble antiseptics cannot reach the lower bowel, where the chief trouble lies. But insoluble drugs in a fluid menstruum have very weak antiseptic power. It is probable that the action of bismuth is due more to its astringent and soothing properties than to its antiseptic power. It seems impossible, at present, to administer antizymotic drugs by the mouth in such a way as to influence materially the small and large intestine. We are obliged to admit that they have been tried and found wanting.

Nevertheless, the bacterial studies of the disease, especially those of Booker, have taught us to secure asepsis where we cannot apply antiseptics. They have also made clear the *rationale* of certain drugs, especially cathartics.

Stimulants, though locally undesirable, are at times necessary, and sedatives may be required to relieve pain.

Until recently there seems to have been general consent to the administration of alkalies. But now that we endeavor to promote asepsis and control fermentation by evacuant, dietary and hygienic measures, they are certainly less important than formerly. They are usually given with, or soon after, feeding. When using pepsin, alkalies should be given midway between feedings.

The indications for acids are doubtful. Lactic acid, as proposed by Hagem, is advocated in (1) acute infectious diarrhoea, where the stools are numerous, watery, and often foul, but yellow in color, and (2) in green vacillatory diarrhoea, for which it is recommended as a specific. Numerous observers have found the reaction of the alimentary canal in healthy infants acid throughout, and Pfeiffer has shown that green stools are associated with alkalinity. Hence, the use of acids would seem to have a rational basis. The dilute mineral acids are commended by many, the dose being one to five drops, administered twenty minutes after feeding.

The vegetable astringents have, during the last few years, been almost discarded. The same is true also of mineral astringents, with a single exception. That exception is bismuth, the subnitrate being the preparation universally esteemed. It is prescribed in much larger doses than formerly,

twenty grains every two hours sometimes being given to an infant.

Opiates are less used than formerly. It undoubtedly checks peristalsis. As peristalsis is increased in diarrhoea, this action is desirable after the bowels have been emptied of their objectionable contents, but highly dangerous before. The other indications for opium are the relief of restlessness, pain and tenesmus, and the control of frequent watery passages. Ashby and Wright recommend it in the later stages if the passages continue small and numerous. Holt and Crandall always prescribe the opiate separately, so that it may be conveniently increased, diminished or withheld at will for increasing fever, as toxic symptoms call for its discontinuance. It should not be given when the passages are infrequent and of bad odor. A decrease in the number of stools while they become more offensive contraindicate its use and demand evacuants. Relief of pain is one of the highest duties of the physician, and unless definitely contraindicated sufficient opium should be given to accomplish this.

DR. HENRY KOPLIK read a paper upon sterilized food and general feeding in diarrhoea.

A report was made upon several cases which showed that infants taking an artificial food presented, in many instances, traces of sugar in the urine, while those fed exclusively upon the breast or rationally prepared cow's milk, never, in a single instance, showed a trace of sugar.

Although numerous theoretical reasons may be given against the use of sterilized milk, clinical experience proves that it is better tolerated by the stomach than any other artificial food. It has a peculiar taste, but in-

fant soon develop a liking for it and prefer it to other milk.

At the Good Samaritan Dispensary, during the summer of 1891, milk was sterilized on a large scale. Six bottles, containing four to five ounces of milk, were given to each patient, the sum of eight cents being charged. In this way over 40,000 bottles were distributed to 575 different infants. The results were favorable in the extreme. The chief drawback was inability to control the milk before receiving it at the dispensary. Changes that have already taken place cannot be remedied by sterilizing. Milk that appears to be good when cold will prove unfit for use when heated. Milk that is several days old may show no signs of change, but when boiled will promptly curdle, owing to the formation of lactic and other acids. When sterilized it will appear flocculent and should be rejected, as it is positively dangerous. It is almost impossible in New York to obtain milk less than twenty-four hours old, and much that is used is several days old, and has been preserved by means of ice and chemicals.

To obviate certain changes which take place in milk sterilized at high temperature, an attempt has been made to destroy the activity of the germs by subjecting it to a lower temperature. In Boston, Dr. Rotch has accomplished this at a temperature of 167° F., but the milk used is unusually fresh and pure. Another method recently proposed is that of bringing the milk quickly to the boiling-point and then placing it at once in a cool place. While milk thus treated keeps much longer than ordinary milk, it should be distinctly understood that it is not sterilized.

Resterilization, by repeatedly sub-

jecting milk to a high temperature, is not to be commended. Milk is a very complex fluid, and every disturbance of its elements renders it less desirable as a food. Our aim should be to produce as little change as possible. If, therefore, it can be rendered safe by heating to a less degree, it should be done. This process of heating milk to a temperature of 167° F. and cooling it quickly is now known as Pasteurization. It does not actually sterilize the milk, but renders inactive certain ptomaine-producing germs. Such milk will keep several days, and, as at this temperature it is but little if any changed in its constituents, it presents an improvement over the older forms of sterilized milk.

Dr. J. LEWIS SMITH asked Dr. Koplik how long he would subject the milk to heat in the process of sterilizing. Before sterilized milk was known he had been in the habit of directing the milk for the child to be subjected to the heat of boiling water for two hours, but now advises but twenty minutes.

Dr. KOPLIK replied that after twenty or thirty minutes, when the Arnold sterilizer is used, the hood could be removed.

THE CHAIRMAN referred to the formula proposed by Dr. Blackader at the recent meeting of the American Pædiatric Society, the Arnold apparatus being used: a pint of water, a Bunsen burner, and fifteen minutes. The hood may then be removed and the cover left ajar. This is effectual for Pasteurization.

Dr. A. JACOBI objected to the statement that he has written extensively on infant foods, "pro and con." He

had never written anything in their favor, but had always opposed their use. Sterilized milk was an improvement upon the methods he had formerly adopted. It was a great error to suppose that sterilized milk was anything but cow's milk. It required just as much modification as though it were not sterilized. A good food was not one that was simply tolerated—one upon which a child did not die, but rather one upon which it would thrive. Many an invalid owes his ill-health in later life to improper feeding in infancy.

Alkalinity in cow's milk was always suspicious, for it was evidence that it had been "doctored." The most dangerous alkali was bicarbonate of soda, for in milk thus treated the ptomaine-producing germs flourished best.

While pepsin was sometimes useful, the speaker objected to its indiscriminate use. Without an acid it was inert. The best remedy referred to during the evening was irrigation of the colon. Not only did it remove decomposing matter, but furnished fluid, which was so much needed, for some is absorbed.

Dr. S. BARUCH said he had not prescribed pepsin without acid for ten years, and had not administered it to children for five years.

Dr. JACOBI said still further that sugar was required in artificial food, but he did not believe that milk-sugar was best. There was a close relationship between milk-sugar and lactic acid. The change from one to the other was very rapid. Some lactic acid was necessary for proper digestion, but an over-quantity produced hyperacidity and indigestion.

ABSTRACTS FROM CURRENT LITERATURE.

The Prevention of Purulent Ophthalmia Neonatorum as a Cause of Blindness.

Boston Medical and Surgical Journal, April 14, 1892.

FREDERICK E. CHENEY prefers the title of Purulent Ophthalmia Neonatorum to that which is usually used to describe this condition, namely, Ophthalmia Neonatorum, for that affection which so often leads to blindness. The total per cent. of those blind being due to this cause is from 18.6 per cent. at the Perkins Institution for the Blind, to 26.02 per cent. in the asylums of Switzerland. Owing to the importance of this subject the New York Legislature has passed the following Act :

SECTION 1. Should any midwife or nurse having charge of an infant in this State notice that one or both eyes of such infant are reddened or inflamed at any time within two weeks after its

birth, it shall be the duty of such midwife or nurse so having charge of such infant to report the fact in writing within six hours to the health officer, or some equally qualified practitioner of medicine of the city, town or district in which the parents of the child reside.

SEC. 2. Any failure to comply with the provisions of this Act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both.

SEC. 3. This Act shall take effect on the first day of September, 1890.

Too little time has elapsed since the passage of the Act for statistics, but it is recommended that other States pass similar laws.

Two Cases of Urticaria Factitia.

CONRAD ALT describes two cases of this very interesting phenomenon. One, a girl of 12 years of age, had suffered from motor and sensory paraplegia of the lower extremities. She had completely recovered, but during the course of treatment she possessed the symptoms of urticaria factitia. This condition, which has long been known, described by Bateman in 1821, and more particularly by Dujardin

Beaumetz, consists in a raising of the skin after stroking heavily with the nail. In this manner figures of any description can be made to appear on the skin in swollen and reddened lines.

Another case, aged 20 years, is also reported, in which this condition lasted nearly three years, and was most remarkable in its intensity. Urticaria factitia is found especially in hysteria, neurasthenia and epilepsy.

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No. 10.

ORIGINAL COMMUNICATIONS.

The Causes and Treatment of Sinuses Resulting from Abdominal Section.¹

BY ANDREW F. CURRIER, M.D.,
OF NEW YORK.

ONE of the most impressive, and, I may say, important facts, in connection with the history of morbid conditions in animal life, is the constant effort of nature—or more properly of the vital forces—to protect the body from the results of injury. It matters little what the nature of the injury may be, whether mechanical or chemical, we find this conservative and salutary influence ever present—ever alert to repair existing damage—to anticipate that which may be. Keen observers among the ancients recognized this influence, but were unable to explain it, except by calling it *vis medicatrix naturæ*. It remained for modern pathological anatomy and

chemistry, with their minute and laborious investigations and instruments of precision, to analyze this influence and its associated processes and give to the world the magnificent contribution of knowledge which constitutes pathological science as we understand it to-day. What a debt the world owes to such men as Virchow, and Cohnheim, and Lister, and Koch, and Pasteur, and a host of others, most of them our contemporaries, for their profound and patient labors in this field of inquiry! Thanks to these labors we can understand, as our forefathers could not, how an injured bone protects itself with a zone of callus, how white blood-cells absorb and digest poisonous germs, how the peritonæum throws out a wall of exudate as a means of defence, and

¹ Read before the Section on Obstetrics and Gynecology, at the meeting of the American Medical Association, held in Detroit, Mich., June 7-10, 1892.

why. These wonderful processes are suggestive of something more than the so-called "blind processes of nature;" they speak to us of law working by intelligence.

Not long since I saw in the practice of a friend an extreme illustration of this conservative disposition of nature for the repair of injury, which may serve as the basis thought in the discussion of the question which is under consideration. The patient was a young Irish woman, about 20 years of age, who had been operated on several months prior to the time when I saw her for tubercular peritonitis, the abdominal wound having been left open for drainage. The peritonæum had secreted freely, but instead of agglutination of the visceral and parietal surfaces the parietal surface remained free, while a wall of new tissue gradually formed over the omentum and intestines, completely isolating them from the parietal peritonæum. This wall, or cuirass, had its upper limit several inches above the umbilicus, extended well into the flanks laterally, and apparently had its lower limit at the brim of the pelvis, though the bladder, uterus and I believe the appendages were wholly outside of it, in the great sinus between the layer of new tissue and the abdominal wall. This latter circumstance may have been due to the fact that the drainage-tube dipped into the pelvic cavity behind the uterus. This new membrane did not appear to be very vascular, was of a dark-brown color and of rather friable structure. It showed no tendency to adhere to the parietal peritonæum, secreted more or less fluid, and, so far as I could learn, showed little tendency to contract. In fact here was an ex-

ample, on a colossal scale, of the sinuses, which are of such common occurrence after the performance of abdominal section. The literature of this subject is very meagre; not that the subject is not frequently broached in society discussions, but so far as I have been able to ascertain it has not been systematically investigated. Perhaps the reason is that the subject can best be studied post-mortem, and the lesion in itself is seldom a cause of death. (I have been unable to find records of autopsies in which dissections of abdominal sinuses have been made.)

The object of the sinuses in question, if that expression is allowable, is evidently a conservative one, resulting from the secreting function of the peritonæum. It is the same process which results in bands and adhesions in all portions of the abdominal and pelvic cavities. It is suggestive of the function of the cuttle-fish, which throws out ink, obscures the water in which it swims, and then escapes from its enemies. The exudate which is thrown out becomes organized, containing connective tissue and blood-vessels, like products of inflammation elsewhere, but the organization is a low one, and while it tends to contract like exudates elsewhere, it frequently does not contract sufficiently to obliterate the lumen of the sinus, in case a distinct lumen has been formed; and, also, retrograde metamorphosis and absorption may not occur, so that the annoyance of a persistent opening, with the discharge of a greater or smaller quantity of pus, may continue indefinitely. There results a severe trial to the patience, and possibly to the strength, of the sufferer, and a tax

upon the ability and ingenuity of the surgeon which he may not be able to meet successfully.

We may consider the causes of this unfortunate condition as constitutional, irritative, and septic.

(1) Perhaps it would be better to use the term *predisposing* in place of *constitutional*. Cases in which the peritonæum, from any cause whatsoever, has contracted the habit, as it were, of throwing out excessive secretion, are by virtue of that very habit favorable cases for the formation of sinuses after abdominal section. This is notably true in connection with tuberculosis of the peritonæum, although it is also true that the effect of opening the peritonæal cavity in such cases is frequently curative, and that if sinuses form the necessary retrogressive changes occur with greater relative frequency than in non-tuberculous cases. Predisposition to sinus formation is also present, in connection with syphilis, malignant disease of the peritonæum, or disease of any of the abdominal viscera in which the visceral or peritoneal circulation is seriously interfered with. In cases in which an abundance of adhesions, either recent or ancient, is found in the abdominal or pelvic cavity, as the result of an inflammatory process, we are in the presence of an irritable peritonæum with a predisposition to sinus formation under favoring conditions. The mere agglutination of coils of intestine to each other may be the first step in this process, and should these become adherent to the parietal peritonæum in the vicinity of the abdominal wound, and the latter fail to close, or be reopened by a force from above or below, the sinus would be complete.

(2) The cause which seems more

fruitful than all others in the production of sinuses, I have termed irritative. Perhaps it would be better to speak at first of mechanical irritation, for septic causes are also irritative, but act chemically as well as mechanically. Drainage and suture or ligature material, of whatever substance composed, is the principal means by which this irritative action is caused. At present we are considering only its irritative action as a foreign body, without reference to septic elements, which are frequently associated with it. Chief among these irritative agents are glass drainage tubes. It matters little whether their calibre be large or small, when used too long in some cases, and when used at all in others, whether properly or improperly adjusted, the result will be a sinus. Their presence irritates the sensitive peritonæum of the intestines and omentum which snugly embrace them. The exuding secretion in a short time (Tait says in seventy to eighty hours) forms a mould around the tube, the intestines are agglutinated to the mould and to each other, and thus a cavity is formed which is walled off from the abdominal viscera. When the drainage tube is removed the concentric pressure of the surrounding structures upon the walls of the sinus may cause them to collapse, and disintegration and absorption may gradually accomplish their complete removal. But in the unfavorable cases these results do not ensue, but the sinus walls become more completely organized, and the consequent phenomena of granulation may continue indefinitely.

Sinuses may also be caused by the irritation of too many or too large sutures or ligatures, or by the loosening of ligatures around tissues which

have shrunk or atrophied. Such an irritation may be an aseptic one, as has been described by Bumm. Such sinuses are without the well-marked wall which occurs when the drainage tube has been the irritating cause. They are formed by the agglutination of coils of intestines, the exudate varying in thickness, of course, with the intensity of the process and the sensitiveness of the peritonæum to irritation. The track of such sinuses may be long, irregular and intricate, and they may contain pockets of considerable capacity, which will give rise to no end of uncertainty and surmising in attempts at exploration and treatment. That ligatures were the cause of sinuses was long since observed by the earlier ovariologists, and this fact induced some of them to endeavor to dispense with ligatures as far as possible. Thus Keith substituted the actual cautery for the pedicle ligature, and Peaslee devised a plan for cutting and removing the pedicle ligature after it had been in position long enough to insure freedom from hæmorrhage. These methods have never been improved upon, though they have been forgotten or ignored by many abdominal surgeons. The use of gauze as a means of drainage within the abdomen is a distinct indication of progress. The irritation which it causes is probably less intense than results from the use of any solid material. The gradual withdrawal of the gauze is probably more favorable to the breaking up of newly formed plastic material than the withdrawal of the drainage tube, and the entrance and development of poisonous germs within the peritonæal cavity is certainly as little facilitated by this as by the use of any drainage material.

These and other considerations have induced some surgeons to discard the drainage tube in favor of gauze, especially in view of the fact that drainage with gauze seems to be quite efficient. The matter is of so much importance that it seems worthy of more extensive study and discussion than it has yet received. The same objections which have been urged against glass drainage tubes are applicable to tubes of rubber, bone, or other more or less firm material. It is assumed that the subject of drainage of the abdominal cavity is intrinsically so important that it will be universally admitted that substances should be used which will be certain to provoke the least irritation.

(3) The subject of sepsis as a cause of abdominal sinuses is as yet too obscure to admit of careful and exact statements. Sinuses not infrequently occur when no drainage tube is used. The abdominal wound is carefully sealed, but sinuses result. It has already been stated that ligatures may by their very presence as foreign bodies excite much irritation, but in how many instances there are also foci of irritation in the form of blood, pus, or serum, within the abdomen or pelvis, or poisonous material which has been introduced from without, which the peritonæum cannot or does not absorb or successfully isolate. Bumm has stated that the gonococcus alone will not cause a septic peritonitis, that it is infectious only upon mucous surfaces, and that its injurious effects cease when it has traversed the mucous membrane of the Fallopian tube; that when it reaches the peritonæum it becomes harmless and is encapsulated. Others have denied this statement, and have re-

ported cases in which gonococci have produced mischievous results upon the peritonæum. Possibly such results may be due to mixed infection, in which, as Bumm states, the streptococcus is associated with the gonococcus and causes peritonæal injury. However this may be the investigations and observations with reference to the question immediately at issue have been mainly clinical. As Sängner has observed (*Deutsche Med. Wochen.*, XVII, 1891, p. 145), experiments such as those of Heinrichius, Loebker and Delbet upon cadavera and animals, furnish no convincing argument, and we are still very much in the dark as to the exact rôle which is played by micro-organisms in this matter. The results which attend the formation of abdominal sinuses are certainly deleterious. The condition is that of a granulating wound, which is not only annoying to the patient, but destructive to vital force, like persistently granulating processes in any situation. There is more or less interference with the functional activity of the intestines, and danger to vital organs, such as results in all cases from prolonged suppuration. Consequences with which we are all familiar in such cases are fistulæ of the intestines and bladder, prolonged vesical irritation and cystitis, inflammatory diseases of the kidneys, anæmia and intensification of pre-existing tubercular or syphilitic processes. Whatever benefit may have been derived from the performance of the original operation and the removal of diseased structures, is neutralized by the new morbid condition which has been developed, and a very important problem is furnished for our consideration, for which

no really efficient means of treatment has as yet been devised. Treatment is rendered the more difficult from the fact that we are frequently unable to explore the cavities as thoroughly as is requisite, on account of their sinuities, on account of the large areas which are frequently involved, and on account of the danger of penetrating the intestines, or the peritoneal cavity in case active measures of treatment are adopted. The alternatives with which we are confronted, in the matter of treatment, are simple expectancy, palliative measures, or radical ones, which mean reopening the peritoneal cavity, extensive dissection and possible inability, even then, to remove the difficulty. Expectant treatment consists in doing nothing; in throwing the responsibility of the situation upon the natural reparative forces. This may be considered the method of laziness, or of despair, and yet it is frequently astonishing to see how capably nature manages such situations, if only suitable measures are adopted for the maintenance of the general nutrition. With a fair degree of vitality of the tissues and functions a spontaneous cure not infrequently results. It is not improbable that many cases which pass from our observation are cured in this way; but there are others which remain uncured as long as the patient lives, causing varying degrees of annoyance, but not sufficient to compel re-entrance into a hospital and the adoption of radical procedures.

The palliative method of treatment offers a wide range of measures for selection, the degree of success varying with the vitality of the patient, the area of the sinus and the adapta-

bility of the measure to the given condition. A prerequisite to success is cleanliness, which means not only cleanliness of the external surface of the body contiguous to the opening of the sinus, but cleanliness of the walls of the sinus, its secretions being removed with sufficient frequency and thoroughness. This is not always an easy matter, and sinuses frequently fail to heal on account of the retention and decomposition of secretions. Irrigation should be practised at least once a day, and my preference is for simple hot water, hot Thiersch solution, or hot solution of creolin or carbolic acid. The abdominal opening should be sufficiently large to permit free exit of the discharges. Applications of the nitrate of silver, twenty or thirty grains to the ounce, sometimes induces satisfactory healing action. A few years ago Dr. Robert Morris recommended the use of a solution of trypsin as an application to the walls of sinuses, for the purpose of digesting the cicatricial tissue and inducing a healthy reparative action. This was recommended by me in two cases in which I was consulted. The cicatricial tissue was indeed digested, but in one of the cases an opening into the bladder was effected, and in the other an opening into the small intestine. The former was cured by persistent drainage of the bladder, the latter by resection of the intestine. This substance must,

therefore, be used with the greatest caution. In a number of cases I have packed the sinus with iodoform gauze with good result in sinuses of small calibre, but without such result in those which were extensive. Theoretically, it would seem that thorough drainage from abdomen to vagina would be efficient, but I have one case which has been treated in this way for three months or more and still remains unhealed. If a pedicle ligature is a cause of irritation, the sinus may still refuse to heal after it has been removed. For obstinate cases there remains only the radical procedure of reopening the abdomen, breaking up all adhesions and dissecting away all adventitious tissue. This may be an operation of great magnitude, and I have known it to fail even with the most skilful operators. It seems to me, however, that it is the true method for the treatment of obstinate cases, and I doubt not that increased experience in technique will make it successful even in such cases. In all cases it must be remembered that violence in exploration, in injection, or in irrigation, are to be rigorously avoided. We must not forget that we are in intimate contact with the thin and often friable wall of the intestine, and that too much manipulation will almost inevitably result in a more serious condition than that from which the patient is already suffering.

Trendelenburg's Posture in Gynæcology, with Demonstration of a Convenient Apparatus for Obtaining the Same.¹

BY FLORIAN KRUG,
OF NEW YORK.

TRENDLENBURG'S posture has come to stay. It will stay because of its great intrinsic value. It is not merely an ephemeral surgical whim, nor can it be compared in any sense to the great number of so-called new methods, gotten up for the special benefit and glory of the so-called inventor, which, however, are essentially nothing else but slight modifications of old practices. But you might say Trendelenburg's posture is nothing new either. Of course the old proverb, "There is nothing new under the sun," holds good in this respect, as in every other.

In my paper before the American Association of Obstetrics and Gynæcology, September 18, 1891,² I cited Fabricius ab Aquapeudente, born in Italy, 1537, as having been the first to recommend the elevation of the patient's pelvis, by hanging him up by his legs and shaking him well, in order to reduce an incarcerated hernia. It has since been pointed out to me by Dr. Robert G. Harris that John Hamelius of Germany, had used this procedure before Fabricius ab Aquapeudente was born. I feel indebted to Dr. Harris for his courtesy in doing so.

This certainly shows that the ad-

vantages of using the law of gravitation in surgical diseases was known to our ancient predecessors. However, this does not detract one particle from the credit due to Professor Trendelenburg, of Bonn, who, first of all, intelligently understood the advantages which this posture offers in modern surgery; who pointed them out to others working in the same field, and induced them to adopt the same course systematically. The posture deservedly bears his name.

He first advocated it in suprapubic cystotomy only. While witnessing an operation of that kind, done by one of his former assistants, I was immediately impressed with the idea what enormous advantages this method would offer in gynæcological work, and I at once commenced to make use of it in my abdominal operations. This was in the beginning of 1888, and only later on I learned that Trendelenburg himself started to use it in gynecic surgery at about the same time.

At first I only used it in cases where I had to work in the depth of the true pelvis and expected to encounter special difficulties. However, so pleased was I with the facilities gained through the method that within a short time I employed it in almost every case, and I am willing to confess that I wonder now how I got along formerly.

¹ Read by invitation before the Philadelphia Obstetrical Society, June 4, 1892.

² See Transactions of American Association of Obstetrics and Gynæcology, 1891.

I am not standing alone in my appreciation of the wonderful advantages of the method. Since the days when the question was frequently put to me by gentlemen who witnessed my operations: "Why do you place your patient in that funny position and let her almost stand on her head?" or when I was asked what I meant by "Trendelenburg's posture," in relating my cases or discussing those of others—I say—since those days a great change has taken place. There is no country in the world where good things are recognized as quickly and adopted as speedily as in America; and at the present day there are already more prominent surgeons avowedly using this method in the United States than there are to be found in the country where it originated.¹

I shall not lose many words in pointing out any further the advantages of the method. I feel confident that, could I have the privilege of operating before you on an especially

difficult case, the advantages of Trendelenburg's posture would be so self-evident that any further recommendation would be unnecessary. In fact, I can assure you, that of the many surgeons to whom I had the pleasure of demonstrating the method, not a single one has failed to become a convert to it.

Really, I fail to see what objections could possibly be raised against it. As far as I am concerned, I have not discovered any yet, although I have used the posture in nearly three hundred abdominal sections, and I should think that any possible drawbacks should have manifested themselves to me by this time. Still, I leave it to the members of this learned society to raise whatever objections they may have against the method and I trust that I shall succeed in dispelling all their scruples.

You all know that Trendelenburg's posture simply means the elevation of the patient's pelvis, in such a way that the body slants down on an in-

¹ I hope to be pardoned for giving a few pickings from an extremely large number of communications and inquiries which I received on the subject of Trendelenburg's posture.

DR. ARCHIBALD McLAREN.

ST. PAUL, Dec. 2, 1891.

. . . I was particularly pleased with what you say of Trendelenburg's position and of its advantages. I have been using that position for the past year and do not see now how I did my work without it.

DR. E. E. MONTGOMERY.

Feb. 11, 1892.

. . . I have recently tried the Trendelenburg posture in some three operations and must confess that you have by no means overestimated its advantages.

DR. JAMES F. W. ROSS.

TORONTO, CANADA, Nov. 5, 1891.

. . . I have now done two cases in that (Trendelenburg's) position, and yesterday cleared out the worst pus tubes it has ever been my lot to meet with; and I feel satisfied that I could not have controlled the bleeding without Trendelenburg's posture . . . it worked like a charm. . . . I also did my first vagino-abdominal hysterectomy two days ago in this position. . . . The adhesions were desperate and therefore the position was of considerable value. . . .

WM. WATKINS SEYMOUR.

TROY, May 7, 1892.

. . . This week I have done here two ovariectomies with your apparatus for Trendelenburg's posture, and was amazed at its revelations. I am converted to a firm belief in its great advantages in pelvic work and shall try it not only in ovariectomies but in appendicitis. In these latter cases I should think it would be a very great help. . . .

DR. CHAS. P. STRONG.

BOSTON, March 27, 1892.

You will, I am sure, be glad to know how satisfactory your portable Trendelenburg apparatus has proven itself. I extirpated a uterus for malignant disease, carrying the dissection down through the vagina to about an inch from the vulva. . . . The ease with which I did this was a marvel to myself and those present, etc.

DR. RALPH WORRALL

SYDNEY, N. S. WALES, Jan. 22, 1892.

. . . A paper by you on Trendelenburg's posture and an account of an appliance which you have devised for maintaining the position. It occurred to me that this was just what I had been needing, for it is impossible to cart about a special table. . . .

cline of at least 45° to the horizontal ; in some cases an elevation of up to 60° is desirable. This certainly does not involve the slightest risk to the patient in itself ; on the contrary, where you have to operate on an exsanguinated patient, it is an efficient safeguard against shock from sudden anæmia of the brain.

No matter whether you choose ether or chloroform as an anæsthetic, the posture does not interfere with the narcosis in the least ; but to any one who has never seen an abdominal section done in this posture it will be a perfect revelation. All the abdominal viscera gravitate towards the diaphragm, and in that way the pelvic cavity is rendered perfectly free and easy of access. A single flat sponge or a piece of sterilized gauze keeps the intestines out of view and harm's way during the entire operation. In this way the most trying feature in abdominal surgery, viz., the constant annoyance resulting from the slipping in between of the guts, is effectively avoided. A great deal of time is saved in that way, and what is still more important the intestines are not handled unnecessarily, and thus injury to the peritonæal endothelium is avoided.

Since using Trendelenburg's posture I never had to resort to creutation of the intestines, not even in the most difficult cases ; while I learned from clinical reports of other operators, who have not yet adopted this method, that every now and then they meet with difficulties which seem to necessitate this risky procedure.

The greatest advantage of all, however, is that Trendelenburg's posture enables the surgeon to perform the operation under control of the eye, so

that he sees what he is doing and does not have to rely upon his sense of touch alone, while dealing with the most difficult pathological changes in the peritonæal cavity. I certainly do not underrate the value of manual dexterity, and I certainly consider a highly-trained, delicate sense of touch one of the requirements of a successful surgeon ; but if any one tells me that he did not care to use Trendelenburg's posture for no other reason than that his fingers could give him the same information that eyesight does, he would strike me as a man who would *deliberately blindfold himself while performing a serious operation on a fellow-being, just to show that he could do it without looking at it.*

I believe gynæcology to be a distinct branch of surgery ; still I hold that it must be governed by the same fundamental rules that are universally adopted in modern surgical art. Now, to make as small an incision as possible, then to extirpate tubes and ovaries, which are the seat of purulent disease, by the *tearing process*, to then indiscriminately flood the abdominal cavity with hot water, under the mistaken idea that in that way infectious material which has been left behind can be eliminated, and to leave the rest to Providence and the drainage-tube, is a practice which is in disaccord with the *very foundation of modern, sound, surgical principles*, and which cannot be denounced too strongly.

Still I do not intend to wander from my subject, but like to point out on the other side the facility which Trendelenburg's posture affords us to peel off and tie off pus-tubes and ovaries, without rupturing them, under the combined control of eye and touch. To mop off all little pools of

blood or sanies that might be found in the depth of the pelvis is easily and perfectly accomplished. Any bleeding spot is readily detected and as easily tied off, as if we were operating on an arm or leg.

As the entire contents of the cavity are before us, like in an anatomical demonstration, accidental injury to the different organs can safely be guarded against. The ureters are plainly visible and can, therefore, be avoided; the contour of the bladder is readily made out, and the organ will never be injured, except by gross negligence, if Trendelenburg's posture is

used. Adhesions with the gut and omentum are not rudely torn in a haphazard way, but are separated in a surgical manner, under perfect control of the eye, while bleeding points are tied at once.

It would lead too far to enter into details and to relate the special advantages of Trendelenburg's posture in the different operations we are called upon to perform in the woman's peritoneal cavity. I must refer you to my former paper before the American Association of Obstetricians and Gynecologists for its special applications.

Laparotomy.¹

BY J. H. ETHERIDGE, M.D.,
CHICAGO, ILLINOIS.

MR. PRESIDENT AND FELLOWS OF THE ILLINOIS STATE MEDICAL SOCIETY: When your permanent secretary notified me to be prepared to deliver an address in Surgery before this august body, I was impressed with the paucity of ideas upon general surgery that it has fallen to my lot to acquire.

My practical knowledge of this division of the subject of medicine has been restricted almost exclusively to pelvic and abdominal surgery for many years. It has occurred to me that it may not be without interest to prepare a paper upon this occasion that will deal somewhat minutely

with the proceedings of general abdominal surgery.

I am at a loss to understand why such an experience in this line of work has fallen to me, but since it has come I have dealt with it to the best of my ability, and I now take great pleasure in giving somewhat in detail the preparation for the steps in, and the performing of, an ordinary case of laparotomy.

Within the past seven months, in the Presbyterian Hospital of Chicago, I have performed more than seventy laparotomies, and when the statement is made that they were without the occurrence of sepsis in any one single case, there may be expressed a justifiable gratification in recounting these experiences. Five of these cases

¹ An address delivered before the Section on Surgery, Surgical Specialties and Obstetrics of the Illinois State Medical Society, at Vandalia, May 18, 1892.

have died, three from shock and two from intestinal obstruction. In the past fifteen years I have seen a great many patients die of sepsis, and looking back upon them I can but be most unpleasantly impressed with the thought that had our knowledge of aseptic surgery, in the early days of abdominal work, been as extensive and accurate as it now is, many women would be alive to-day who succumbed so speedily to the preventible inroads of the fatal micro-organism.

Permit me to take you in imagination with me to the Presbyterian Hospital and to persuade yourselves that you are in that building as this paper is read.

Concerning the preparation of the patient beforehand, in this hospital, it may be stated that the nurse takes charge of her the day before operation and subjects her to the following: First, the pubic and vulvar hair is shaved; second, a thorough scrub-bath with soap and water is given, then the patient is washed thoroughly with a solution of the bichloride, 1-3000, from the shoulders to the knees, afterwards with a solution of alcohol or ether; and third, is used an iodoform pad, covering the whole abdomen, held in place with a binder, which is permitted to remain from the night before until the operation the next day. The extremest care is obtained in these preparations of the patient. We are always assured of the fact that the removal of the binder and the pad after the patient is anæsthetized and on the table for operation the following day by hands that are surgically clean, reveals the abdominal surface absolutely, perfectly prepared for the ordeal of laparotomy.

The instruments, needles and liga-

tures are boiled in the sterilizer for a space of half an hour just prior to the operation. They are removed from the boiler by surgically-clean hands and placed in sterilized water, in a perfectly clean basin, covered with an aseptic towel, to be uncovered only at the beginning of the operation and handled only by the operator and the head surgical nurse. The hands of the operator and of his interne and of the nurse who handles the sponges are washed for a space of ten minutes with hot water, green soap and a scrub-brush (which, when not used, is kept constantly in a solution of bichloride 1-2000), then in sterilized water and afterwards in a solution of bichloride 1-5000, and subsequently they are washed in pure alcohol for a space of five minutes. The utmost attention is paid to the cleaning of the nails and of the matrices before washing. After the washing the hands are permitted to come in contact with absolutely nothing except the patient, instruments, sponges and ligatures. A second nurse has charge of an aseptic sheet for covering the patient, with an oval opening that exposes the abdomen, and of the sterilized towels wrung out of the hot sterilized water and placed about the patient's abdomen. From the start to the finish of the operation these hands are permitted to touch nothing except the patient, instruments, sponges and ligatures. From time to time during the operation, as the hands of the operator and interne need washing, they are cleansed in hot sterilized water. It will thus be seen that the utmost respect is given to the dictates of modern antisepsis.

When visitors are present they should either wear an aseptic gown or

should witness the operation at such a distance from the operator, internes and nurses that they, in working and turning about, will not permit their hands in any way to touch the visitors' clothes. It is also well to bear in mind the golden truth that it is not so often what is *found* in the abdomen and pelvis that destroys the patient as what is *put* into the abdomen by the hands, sponges or ligatures. It is a simple truth that the fluids of cysts are nearly always innocuous. Before taking up the scalpel it is always well to see that the assistant and nurses are ready to the very last degree with their instruments, needles, sponges, ligatures and dressings. Where one operates seldom it is quite necessary to see that the hands of all the assistants have been prepared with the greatest care. A dirty finger-nail or matrix of one of these persons may defeat the whole operation.

The first incision is made about three inches long, down through the skin and subcutaneous cellular tissue, to the sheath of the muscle, which is grasped by two dissecting forceps placed very closely together, held by the operator and the interne, raised and quickly divided the entire length of the wound, without injuring the muscular fibres beneath.

The cellular space between the pyramidal muscles is sought, seized and quickly raised with the forceps and divided with the scalpel, the bottom of the incision being again seized until the peritonæum is reached and opened. The first opening of the peritonæum is made not more than half-an-inch long. Its edges are seized and raised with the dissecting forceps, while the forefinger of each hand of the operator is thrust into

the opening and separated forcibly, thus tearing the peritonæum until it is enlarged to about two inches in length. When needed, in many cases, numerous blood-vessels are seized with the snap forceps as the incision is made. It often occurs that there is no bleeding from these blood-vessels to require the snap forceps. This aspect of making the laparotomy incision varies to such an extent that I have had anywhere from ten snap forceps on bleeding vessels down to none whatever. Whenever the vascularity of the abdominal wall increases, as the incision is carried forward, it is safe to infer that the peritonæum is adherent to something beneath it. Accordingly, when encountered, the rapidity of progress is very much impeded. Immediately upon making the opening into the peritoneal cavity the hands are washed thoroughly in sterilized water, which is conveniently near. Two fingers of the left hand are thrust into the abdomen for the purpose of exploring. Whatever is encountered is treated *secundum artem*.

After the peritonæum is opened, among the principal things that the operator will have to deal with are the following: tympanites, adhesions, rupturing closed cavities, the management of pedicles, controlling hæmorrhage, drainage, toilette of the peritonæum and the closing of the abdomen.

"In the manipulative part of the operation, absolute precision and exactness, as far as hands and material can secure these, are necessary to the most perfect success. Not only must no part of the work be hurried over or scamped, but every detail must be finished and rounded off with a thoroughness as minute and genuine as if

that detail were the turning point of success, and practically it is a fact that imperfect attention to almost any detail may result in a catastrophe."

—*Greig Smith.*

Oftentimes the first thing that is encountered is tympanites, to such an extent that it is necessary to protect the bowel from exposure and injury. A large flat sponge tucked into the abdomen in front of the intestines ordinarily answers the purpose. It is very rare that it becomes necessary to enlarge the incision above the umbilicus, or to turn the intestines out upon the abdomen for the purpose of proceeding. When eventration is necessary an abundance of hot towels should be placed under and around and above the intestines, and it should be the duty of one person to keep these towels continually hot.

It is of vital importance that the intestines should be handled with the greatest of care in all manipulations and procedures. Roughness and violence are not to be tolerated, while tenderness and celerity in protecting the bowels from exposure are to be cultivated.

The separation and management of adhesions comprise the most of the difficulty in removing abdominal tumors. When visible their separation is comparatively easy. When they lie deep in the pelvis and are out of sight, they are managed with difficulty and often with danger. Adhesions to the bowels and to the pelvis or to the liver or diaphragm, are the most difficult of all to manage. Undue violence in separating adhesions is almost never justified. It is always best when the adhesions are indistinguishable, and we fear lest we might wound vital parts, to enlarge the ab-

dominal opening sufficiently to expose to full view the adhesion to be separated. The minute fibrous bands of adhesion can be easily detected in most instances by vision, when the separation can be accomplished with the finger, or with a blunt instrument, as the handle of the scalpel. The enormous advantage of using the Trendelenburg position in operating is obvious in crowding the intestines upwards towards the diaphragm, and in exposing completely the tissues of the pelvis to complete vision. Slight adhesions are best separated by brushing them off with a sponge; firmer ones must be separated with the fingers. The large bands can be divided by scissors, between two pairs of catch forceps, less than one-third of the vessels, compressed by forceps in these adhesions, require ligatures.

Whenever any tumor is universally covered with numerous and thick adhesions, the best method of enucleation is that first described by the late Prof. Parkes, which consists of dissecting through them to the base of the tumor, a procedure oftentimes most difficult of accomplishment without opening the sac, and then putting the adhesions off from their origin to their terminations in one broad sheet or mass. Whenever the attempt is made to reverse the process of filling them up from their periphery to their origin we encounter layer after layer of adhesions which must be separately dealt with, thus prolonging the operation to an unfortunate extent.

When the adhesions have been separated and the pedicle is ready for the ligature, my custom is to take a long silk ligature, in the middle, in the end of the jaw of a long narrow forceps, and to thrust it through the

least vascular spot in the pedicle. It is then divided, thus giving two ligatures through the middle of the pedicle. Each half of the pedicle is tied in one of these ligatures, which has been crossed with the other before tying. Afterwards each ligature is crossed under the other and tied securely around both halves of the pedicle, thus each half of the pedicle is secured by three ligatures. Before dividing the pedicle a snap forceps is made to take a small bite of the pedicle beneath the ligatures, so as to prevent its slipping back into the pelvis sooner than desired. A sponge is then tucked into the abdomen, down under the ligatures, so as to catch any objectionable fluid which may flow from the divided ends, and with the scissors the pedicle is divided above the ligatures. After the ligatures are cut off the pedicle is severed, then the stump is slowly eased down into the pelvis to see if its relaxation is followed by any hæmorrhage. If not the forceps are removed and the sponge is taken away.

In subsequent manipulations it is vitally necessary to avoid pushing the ligature off the pedicle that has been dropped back into the abdomen or pelvis. Carelessness in this particular oftentimes results in the starting up of furious hæmorrhage. I have seen this accident occur repeatedly. It is unnecessary to state that hæmorrhages thus occurring, of any magnitude, add greatly to the shock of the operation and diminish the patient's chance of recovery.

When the accident has occurred of opening one of the closed cavities, as the bladder, intestines or stomach, it is necessary to give immediate attention to it. The edge of the opening

should be seized and raised well out of the abdomen, and gauze sponges tucked about it, entirely preventing its contents from running into the abdomen. Suturing this opening is a proceeding as difficult and tedious as it is important. Whatever method is accepted, of the thirty-three distinct methods advocated, it should be thoroughly and skillfully followed, for upon this procedure depends more than upon any other detail the success of the operation. Sutures that are not absolutely pure will cause suppuration. Tying the suture too tightly will cause sloughing. The best of all suture materials is fine Chinese silk twist. No suture passing through the peritonæum should penetrate the mucous membrane. It is needless to say that the needle used should not have cutting or spear edges. The operator must decide whether he will use the continuous or the interrupted suture. Each one has its advocates and brings perfect results when skillfully used. The best of operators will have these accidents of opening closed cavities come to him at some time. I have seen the bowel torn open; I have seen the stomach depressed into the pelvis, torn open; I have seen the bladder opened many times; once I saw its fundus amputated; once I saw the entire organ amputated. All of these accidents occurred in the hands of skillful men.

The management of a hæmorrhage constitutes no small factor in many laparotomies. It requires coolness on the part of the operator, and a fine knowledge of the anatomical sources from which it came. This is one of the most appalling features of this kind of work. Operators with limited

experience are very likely to become demoralized in dealing with it. The first thing of all is to determine its source. This is best done by rapid sponging and bringing the bowels well up out of the pelvis to find whence it comes. A little blood will usually make a large showing: the abdomen will seem to be filled with it, because this cavity is filled with intestines and the fluid is forced at once to the opening, presenting the appearance of a small lake of blood, when, perhaps, there is not to exceed half an ounce to be sponged away. As soon as the pelvis has been cleared of intestines, being held up by the hands of an assistant, aided with a large flat sponge, the bleeding vessels can be easily detected; if the vessel be large it is clamped with a long forceps, then sponging is continued, in order to detect bleeding from other vessels. It is best to seize all vessels before using any ligatures. When the vessels can be drawn up and ligatured, stopping the hæmorrhage is easily and quickly done. But when it comes from large vessels, developed in the bottom of the pelvis in the course of adhesions, we have to deal with the most difficult manipulative procedure in all abdominal and pelvic surgery. Lost vessels must be encircled with a strong ligature, carried under them with a curved stout needle, and then firmly tied and cut short. Occasionally, it happens that it is impossible to ligature such vessels, and then our only resource is to clamp them with a long forceps, leaving it in the pelvis for thirty-four or forty-eight hours, closing the abdominal incision about it. When we are compelled to resort to this means of hæmostatics we incur the risk of producing fæcal

fistula, by the pressure of the intestine against the forceps.

The last thing that is done before closing the abdominal wound is to carry a small sponge in a long-jawed forceps, with the greatest gentleness, down to the bottom of the pelvis and deep into the flanks. If it is withdrawn without evidence of hæmorrhage, we may feel reasonably sure in completing the operation. Occasionally, it will be found that broad surfaces in the pelvis, and upon the posterior walls of the bladder or the uterus, will present an oozing which cannot be stopped with ligatures. Formerly hæmostatic drugs were used, notably iron, and only too often with fatal results. To-day, the most common treatment of such oozing surfaces is the Mikulicz drainage.

Concerning drainage, it is difficult or, perhaps, unwise, to speak dogmatically. "When in doubt, drain," is good as a motto. More cases have died from its lack than from its practice. The tube should be neither too long nor too short. It should be crowded to the bottom of the Douglas pouch without producing pressure on the rectum. The cases most benefited by drainage are those where there have been deep pelvic adhesions, whose subsequent bleeding and oozing it is extremely desirable to remove. Where septic fluids escape into the cavity, or where we anticipate excessions of fluid, or when in doubt as to the efficiency of the toilette of the peritonæum, drainage should be used without hesitation. As to the management of the drainage tube may not be superfluous. A drainage tube, filled with sterilized gauze, constitutes an efficient means of removing the fluid. When no dis-

charge occurs from the tube it is well to remove the gauze and to exhaust from the bottom of the tube with a little rubber tubing attached to a syringe, thus drawing through the little holes at the end of the drainage tube any clots that may obstruct them. If two or three exhaustings with the syringe be fruitless the drainage tube may be removed. It is, perhaps, needless to state that all manipulation of the drainage tube should be executed with surgically clean hands.

The tube is removed in twelve, twenty-four, forty-eight, seventy-two hours, or whenever there ceases to be any discharge. The loop-stitch, which stands opposite the drainage tube, is then tightened, and the entire wound covered with a proper dressing. The Mikulicz drainage, properly used, is one of the most satisfactory methods of removing fluids from the abdomen that we have. It consists of a piece of iodoform gauze, say eighteen inches square, the centre of which is tucked down into the bottom of the cavity where we desire to use it. Its free edges are spread over the abdominal wound like a funnel, and into it strips of sterilized gauze, three or four inches wide and two or three feet long, are crowded until we have the cavity sufficiently filled. One end of each end of the sterilized gauze is left out of the abdominal opening, and when the packing is complete the periphery of the iodoform gauze, together with the long ends of the sterilized gauze, are tied together as one ties the mouth of a grain-sack. The end of whole mass is brought outside of the incision. It is left in as long as necessary, which means so long as there is any fluid

escaping from it. When it yields no more discharge the ligature around it is cut, and piece after piece of the sterilized gauze is gently withdrawn, until the large piece of iodoform gauze remains alone, which is then drawn out by gently pulling at one edge of it until it is removed entirely from the abdomen. It is a grave mistake to leave the drainage after the discharge from it ceases. When it is permitted to remain for days and weeks supuration is liable to occur from infection from without, and the patient is liable to die of secondary septicæmia. The collecting and removing discharges requires great care; the collar and tube should be encircled by a rubber cloth, absorbent material should be placed over the end of the tube, the rubber cloth folded over it and pinned to the distal end of the cloth, then placed between the thighs, and from it, in some receptacle, the fluids can be collected. It is poor practice to remove the dressing frequently to see if drainage goes on. By watching the end of the rubber cloth gutter one easily determines whether the discharges have ceased. When the Mikulicz drainage is used, its outer end can be encircled by a rubber cloth and the discharge collected. The usual length of time of leaving the drainage tube, or the Mikulicz drainage, is from twelve to seventy-two hours, the latter length of time being usually the maximum. Nearly all drainage tubes are removed within twenty-four hours. The Mikulicz is best used when extensive oozing surfaces are exposed, where cysts cannot be removed and must be drained, and in cases of enormous abscesses, whose opening has been stitched to the abdominal

wall. In cases of cysts that cannot be removed, a large piece of gauze drainage is sometimes used for weeks and months, it being removed every twenty-four or forty-eight hours and the cavity flushed out with hot sterilized water, and repacked.

The toilette of the peritonæum is simple or complicated, according to what has escaped into its cavity. This is one of the most important steps in the operation. When no blood has escaped into the cavity the crowding of one or two sponges, with suitable sponge-holding forceps, into the Douglas pouch and into the hollow of the loins, will show upon their removal that the peritonæum is absolutely clean. If glutinous or semi-solid foreign matter be present the most complete and exhaustive flushing of the abdomen and pelvis is resorted to. An irrigating reservoir of four gallons capacity, and a rubber tube with a lumen of one-half inch, raised two or three feet above the patient, will serve the purpose. The end of the tube is carried to the Douglas pouch. The great force of this hot water will wash up out of the pelvis every particle of matter that it is desired to remove. In flushing the abdomen the wound is closed with one hand, while the fingers of the other hand agitate the intestines, thus cleansing them absolutely. Subsequently the water is removed from the abdominal cavity with sponges. In removing this fluid one can easily illustrate the result of sufficiency and excess. Rather than go on using the sponges deep down in the pelvis so long as a few drops of fluid can be squeezed out, I think that it is much better not to possibly irritate the intestines by too much using of the sponges, but to depend upon capillary

drainage, through the drainage tube, filled with gauze left *in situ*. In cases of prolonged operation and collapse, one cannot oftentimes but be impressed with the stimulating of the flagging powers of the patient by the heat of the water that is used.

The conspicuous advantage of irrigation is that it will always detect hæmorrhage, a very small quantity of blood making itself apparent in the water.

When everything is ready for closing the incision, it is well to take an invoice of the number of sponges and instruments. A few years ago Dr. Wilson, of Baltimore, read an article before the American Gynæcological Association on the subject of leaving foreign bodies in the abdomen after laparotomy. The number of instances which he cited of sponges and forceps thus left is simply astounding. Accordingly it is a wise plan to be absolutely sure that the number of sponges and instruments tallies with that before the operation. I have repeatedly lost sponges which the ever vigilant nurse, who has charge of them, has enabled me to remove from the abdomen after frequent and very prolonged search. If the operation has been a long one, lost sponges are liable to be found up under the diaphragm. It is needless to say that we must find these foreign bodies and remove them, no matter how long it takes. I recall one instance where a sponge was lost that took me more than twenty minutes to find. I recall one instance where a sponge was found upon making an autopsy. A friend of mine once had a similar experience with a pair of forceps.

When everything is ready for suturing the incision, a large sponge is

pushed into the abdomen, beneath the opening, to prevent wounding the intestines.

The method of introducing sutures is unimportant, provided the material used is surgically clean. Out of respect to the idea that the peritonæum may be infected by inserting the needle from without inward, I have used for a long time a needle upon each end of the suture, each needle being introduced from within outward. Of late I have made use of a large Hagedorn needle, introducing it from without inward on one side, and within outward on the opposite side. The advantages of this needle are its curve, its stoutness and its large eye. Chinese silk only is used in suturing. The entire abdominal wall, skin, muscular tissue and peritonæum are included in one sweep! I have sutured the peritonæum, muscular tissue and skin separately, but am not at all pleased with the results, as compared with the single suture. I make the suture penetrate the skin about one-fourth inch from the incision, curving it backward and outward, so as to make the entire bite of the suture include at least an inch of the peritonæal surface. It has seemed to me that I have seen, by this method, more cases of complete union of the cutaneous surface, without gaping, than by including more skin in the ligature. The sutures are placed about one-half inch apart, thus doing away with intermediate stitching. After the sutures are cut off, the abdomen is cleansed, dried, and the entire wound and sutures are buried with a dusting powder, composed of equal parts of boric acid and iodoform. Loose iodoform gauze is then placed in the wound, a broad layer of sterilized gauze over that,

then a thin layer of cotton, all held in place by an abdominal binder with its perineal straps. After putting the patient to bed, the wound is not uncovered until the seventh or eighth day, when the stitches are removed. If stitch-hole abscesses occur, I always blame myself for faulty technique or unclean sutures.

The utmost care is maintained after the sutures are removed from the basin to avoid touching anything with them that is not absolutely clean. Before using them, fresh aseptic towels are placed about the entire wound. The end of the sutures that is not held aloof by the needle-holder is not permitted to touch anything but these towels. I recall seeing an operator who would permit the suture to come in contact with his soiled gown, holding and handling it needlessly, and he almost invariably had one or more stitch-hole abscesses. Usually we remove the sutures on the eighth or ninth day. If I have stitch-hole abscesses in two or three consecutive cases, the entire manipulation of the ligatures, before using them, is revised, and the faulty step eliminated. Since last October I have done over seventy laparotomies, without a single stitch-hole abscess. It is needless to say that the preparation of the ligatures, from the moment of their purchase, until used in suturing, is carried out without abating one jot or tittle of the care in preparing them.

A few words concerning the after-treatment. The patient is put to bed on her back, surrounded by hot water bottles, and every attention is immediately given to allay shock and collapse. During the time of the operation, hot water bottles are placed in the bed in order that the patient may be sur-

rounded by heat. Hot water bottles surround the feet, legs, and flanks. During the first few hours—twelve or more—the patient is kept rigidly upon the back, with a pillow under the knees if desired. If she is content to remain thus for twenty-four or forty-eight hours, it is not suggested to her that her position can be changed. If remaining quiet become irksome or make her restless, she is turned upon her side with supporting pillows under her back. After the first twenty-four or forty-eight hours the patient is permitted to be turned as often as desired. Where the luxury of two beds—one for night and one for day—is indulged in, the patient's comfort is greatly increased.

It sometimes occurs that when the drainage tube is used, the patient will have a fixed, gnawing, unremitting pain in the lower part of the back, which nearly makes her wild. It is always well to bear in mind that such a pain may arise from pressure on the end of the tube against the parts beneath, when it will be found that withdrawing the tube a fraction of an inch will cause the pain to disappear.

During the first twenty-four hours we have the possibilities of shock, collapse and hæmorrhage to anticipate. Where shock and collapse follow a very severe operation, or when there has been much loss of blood, the foot of the bed is elevated and about a drachm of deodorized tincture of opium in a coffee-cup full of black, strong coffee is injected into the rectum. The cardiac stimulating properties of these two agents in shock and loss of blood, are well known.

The evidences of hæmorrhage consist in the increase of the rapidity of the pulse, its becoming thready and

wiry, in sweating and that terrible restlessness, leading in many cases to violent delirium, and, often, convulsions, so well known to the surgeon. Where the drainage tube has been used the diagnosis is made without difficulty, because of the escape of blood through the tube. If the hæmorrhage be severe, or evidence of exhaustion supervene, reopening the abdomen is imperatively demanded.

When we do not encounter shock, collapse and hæmorrhage, the first thing that engages our attention is pain. It is my custom to make use of a hypodermic injection of one grain of codeine immediately upon putting the patient to bed. I do not repeat it for pain unless there be a very urgent indication therefor. I think it better to encourage the patient to endure the pain, for the reason that if peritonitis develop, the well-known effect of opiates in paralyzing the intestinal muscle, thus favoring tympanites, will interfere with the successful treatment of this condition by drainage through the bowels with salines. I think the habitual employment of opium is to be condemned, because the patient is always better and brighter without it. The one indication for the use of opium—not the initial dose—is restlessness and jactitation.

After the operation, vomiting is one of the most troublesome symptoms. If it persists, after a period of ten or twelve hours, it is best to begin feeding the patient by rectum with food and stimulants. During the first ten or twelve hours after the anæsthetic we expect the vomiting as its legitimate consequence.

That form of vomiting that does not arise from tympanites, nor peritonitis, nor fermentative dyspepsia—the form

of vomiting that we may call nervous vomiting, perhaps—can be held in abeyance by the nurse in attendance rubbing the patient's lips with a piece of ice. There seems to be an inhibitory action exerted upon the vomiting centre. In such patients absolute quietude should be maintained, the nurse only being present. Friends running in and standing about the patient will only tend to perpetuate this vomiting.

If persisted in after twenty-four hours, accompanied by tympanites, we are assured that vomiting does not arise from the anæsthetic, especially if the vomited matter is tinged with bile, when it is best to give the patient a large draught of some diluent, and, to increase free vomiting, which may bring relief for several hours. It is well to know whether or not the patient is a victim of chronic vomiting before doing the operation, indicating thus the presence of chronic fermentative dyspepsia. In such cases it will be necessary to resort to gastric lavations. In persistent vomiting the administration of fluid by mouth must be stopped, and the patient sustained entirely by rectal feeding. Where rectal feeding is kept up for several days, the large intestines should be thoroughly washed out, at least once in twenty-four hours, and the rectal tube often inserted to relieve the accumulation of gas, thus encouraging its escape from the small intestines down to the large intestines. Where vomiting persists, we have grave reasons to fear peritonitis, for with its continuation we almost invariably have intense tympanites. There is no more formidable combination of symptoms to deal with than vomiting, tympanites and peritonitis, which Greig

Smith calls, "The furies of abdominal surgery." From this combination we have more deaths than recoveries.

In dealing with peritonitis I believe the better treatment by far to be draining through the bowels with salines. Opium arrests pain but favors tympanites. A free purge will relieve the bowels of great quantities of gas and fluids, thus taking away the engorgement of the intestinal tract. Oftentimes a dose of Hunyadi water, Epsom salts, or a Seidlitz powder, or two drachms of sodium phosphate in hot water, will put an entirely new aspect on the case. It will often be found that free purging is an excellent substitute for draining. Where a free diarrhœa can be secured vomiting nearly always ceases. It relieves the tympanites, which undoubtedly produce vomiting. Very often it will be found that the use of ox-gall in hot water, injected into the bowel in as large quantity as it can contain, will incite enough peristaltic energy to bring away large dejections of fecal matter and gas, thus putting an entirely new aspect on the patient's outlook.

I recently saw a case of the removal of both tubes and ovaries, which went badly from the moment the patient was put to bed. At the end of forty-eight hours her temperature was 104° , her pulse 148, tympanites was extreme, jactitation excessive, extremities cold and clammy, and she was snatched from the jaws of death by the untiring, persistent efforts of a trained nurse, experienced in the care of such cases. The patient was vomiting everything put into her stomach, and there seemed to be hardly a ray of hope. The nurse was given to understand that the only possibility of saving

this patient was to make her bowels move. She persisted in using large enemas, containing turpentine, castor-oil and ox-gall, and at the end of fifty hours after operation she succeeded in securing bowel movements. The patient passed enormous quantities of gas and fæcal matter, and in the morning her temperature had fallen to 100° , the restlessness had ceased, the tympanites had nearly disappeared and the patient ultimately made a good recovery. I was astonished beyond expression to see the miraculous change in this patient following free catharsis.

In these cases one of the most comforting things to the surgeon is to learn that the patient has passed gas freely from the bowels. If it be passed freely and in large quantities, it is an evidence that the peristaltic movement of the small intestines is still active. If only very minute quantities of gas pass, showing that it comes only from the colon, the outlook is extremely gloomy, because it indicates the more or less complete cessation of the peristalsis of the small intestines. In this condition the microbic invasion of the peritonæum through the walls of the intestines goes on with frightful rapidity. The more it develops the more easily the intestinal muscles become paralyzed. There always comes a point in the development of this paralysis beyond which it is absolutely impossible to rescue the patient, consequently the vital importance of preventing over-distention of the intestines must be apparent to the surgeon.

In all cases it is my routine practice to secure a bowel movement in the third twenty-four hours at the

latest. Where no unfavorable symptoms develop, it is easily secured with cathartic enema. The ones that I generally use are a combination of turpentine, castor-oil and inspissated ox-gall, and these will usually answer every purpose. When enemas do not answer, cathartics by the mouth are used. Many surgeons use four grains of calomel every three hours until catharsis is secured. In addition to the cathartics, turpentine enemas, with the addition of castor-oil, are oftentimes exceedingly serviceable. I am free to confess that only too often have I entirely failed to secure free catharsis and relief in these cases. When we do succeed in cathartising we relieve the vomiting, distention and restlessness, and the next day behold the patient with all urgent symptoms in abeyance, but very weak from the frequent dejections. We can then use stimulants freely, and we feel that the patient is practically out of danger. At each visit after laparotomy it is my custom to slip my fingers under the abdominal binder, over the *scrobiculum cordis*, keeping track thus of the beginning of tympanitis, which seems to show itself first of all in the transverse colon. In peritonitis, the pulse and temperature are liable to separate. When the pulse goes up and the temperature remains stationary or falls, the prognosis becomes more and more unfavorable. It is no uncommon thing in these complications for the temperature to go no higher than 100° , while the pulse rises higher and higher, the face presenting a pinched expression and the restlessness increasing. If, after this, the pulse goes still higher, reaching 135 to 150, and the temperature descends to the normal or be-

comes a subnormal, death almost always ensues.

Bacteriology has shed a flood of light on the pathology of peritonitis in the last decade. The initial departure from a healthy condition easily arises from some septic material introduced into the peritonæal cavity at the time of the operation. Our views concerning the susceptibility of the peritonæum to take on inflammation have undergone such a change in recent years that we scarcely recognize the literature on this subject of twenty years ago. Then the peritonæum was regarded with the utmost awe. To touch it or to open it was regarded with so much fear that but few men had the courage to attempt surgical operations on it. Of late we have learned that it is apparently more tolerant of insult than other serous cavities or common subcutaneous tissues.

"The explanation of this condition is to be found in the character of this membrane, and the conditions that obtain when pyogenic organisms are introduced into it. Then, first of all, comes into play its wonderful capacity of absorption, by which micro-organisms are deprived of their necessary nutrient fluid, along with which, as it returns to the vessels, it is quite possible they may pass into the circulation, to be there destroyed."—*Park.*

"The capacity of the sound peritonæum for absorption of innocent fluids is simply astonishing. Experiments show that micro-organisms can be introduced into the peritonæal cavity in large quantities, and yet can be absorbed into the circulation, there to be destroyed without setting up peritonitis. Injections of relatively

too large amounts, which the peritonæum is incapable of absorbing, are surely and rapidly fatal. In complicated laparotomies the peritonæum absorbs these foreign organisms readily. When ascites is present it offers a fine culture field for the growth of bacteria and increases the danger of peritonitis. It is now well established that there are at least three different forms of peritonitis.

"*First*, an aseptic peritonitis, in which there is no bacterial infection. It is usually local, sometimes generalized. It progresses to exudation and possibly adhesion.

"The second variety is a *specific* peritonitis. In this variety we find tubercular and gonorrhœal peritonitis.

"The third form is a *septic* peritonitis. One form of which is a *puerperal*, the other is a *putrid peritonitis*. It is the last form, namely, the *putrid peritonitis*, that we have to deal with. It is usually post-operative and is a mixed infection. It begins *without* a chill, with fever, which generally arises, and is characterized by a putrid, ill-smelling exudate. It is the result of putrefactive organisms, which are introduced at the time of the operation and quickly work their evil effects. The febrile symptoms are mainly due to ptomaines. The disease is spread locally by means of the bowel, that is by peristalsis. In the most rapidly fatal cases we find in the peritonæal cavity a thick, flaky, yellowish fluid, which, if removed by aspiration immediately after death, has no odor. It contains fibrine flakes, endothelial and pus cells and streptococci; these latter are found as well in the genital tract, in the blood and in most of the internal organs. This fluid is extremely in-

fectious; a fraction of a drop injected in the abdomen of a rabbit sets up a violent commotion, which is fatal within twenty-four hours."—*Park*.

One of the early symptoms of septic invasion is the supervention of tympanites, which progresses with such extreme rapidity that within a few hours complete intestinal paralysis is developed. With this paralysis there exists a migration of micro-organisms from the intestinal canal, which add their virulent force to the terrible invasion of the peritoneal cavity pre-existing. As a consequence of this, if we have severe tympanites occurring within the first forty-eight hours after operation, we always view it with great fear. When large watery bowel injections can be secured, there is promoted an absorption into the intestines of the bacterial elements of the peritonitis, which would seem to give us the only promise of arresting death. A perfectly sound peritonæum, therefore, offers us the best promise of a favorable result. The peritonæum that has been attacked, or that is already weakened in resistance at the time of the operation, favors the absorption of germs and lessens the chances of the recovery of the patient. Antiseptic operating comprises virtually the exclusion of the majority of organisms, but we are reduced to trusting to the resistance of the tissues to dispose of those not excluded. Ordinarily such microbes as enter the abdomen are killed by the cells or fluids in which they lodge. When the infection is started its rapid spread by peristalsis is instituted, and the enormous absorptive capacity of the peritonæum speedily overloads

the blood with organisms, so that the patient soon succumbs to putrid intoxication.

During the first few days after a laparotomy it is best that no person besides the nurse and physician see the patient. Nervous and hysterical patients are always made worse by visitors. It is my custom to have my patients and my friends understand before the operation that the patient will not be seen by them until after seventy-two hours have passed. It is only occasionally that this rule can be violated with impunity.

The stitches are usually removed on the seventh or eighth day. The best way to remove them is to lift up with the dissecting forceps one side of the ligature, turning it over on the abdominal wound until the whitened silk is seen, then to divide and draw it through from the other stitch-hole. The point of the scissors should be placed close to the stitch as it is drawn out, as a counter-pressure. It should be drawn *towards* the wound, instead of away from it, so as not to break down the recent healing. The fingers, dissecting forceps and scissors should be absolutely clean in this procedure. After removing the stitches, when there is no indication of stitch-hole abscess, I make no attempt whatever to cleanse the wound, but re-cover it with iodoform and boric acid and then with the abdominal binder. No attempt is made to wash off the wound until the end of the second week, so as to avoid all possibilities of infection through stitch-holes. The patient sits up on the twenty-first day and leaves the hospital on the twenty-eighth, if a favorable case.

Inversion of the Uterus. A Compound Presentation. Spontaneous Reposition in Pregnancy of a Uterus for Many Years Fixed in Retroflexion. Intraperitoneal Abscess from Gonorrhœa. Enormous Cyst of the Labium. Removal of Infected Fibroids After Delivery. Tuberculous Peritonitis, with Pyosalpinx.

BY B. C. HIRST, M.D.

THE first case I have to report is one of the rarest accidents in obstetric practice—*inversion of the uterus*. There was placed under my charge, in her second pregnancy, a woman who had married late in life, had become pregnant, gone considerably beyond term, and then been delivered, after a very difficult labor of a dead infant, destroyed by instruments. In the second pregnancy a disposition to prolongation was again shown. Ten days after term I inserted a bougie, and about thirty hours later a living, healthy child was born without instrumental interference. After waiting about twenty minutes, I endeavored to express the placenta, but without success. A sharp hæmorrhage then occurred, and I tried to assist the expression by moderate traction upon the cord. The placenta did not come, and the hæmorrhage grew more profuse. I then inserted my hand to the placental site, found the placenta partially adherent, detached it with some difficulty, and then extracted it. At that time, as I could plainly feel, the uterus was normal in position, although, of course, not well contracted. A few minutes after the removal of the placenta, although there was no more bleeding, the woman became profoundly

shocked. The face was pinched and deadly pale, vision failed, the pulse became imperceptible at the wrist, and the heart beat feebly but very rapidly. Placing my hand upon the abdomen, I noted an absence of the uterine tumor, which only extended a little above the symphysis. Inserting the hand within the vagina, it was at once met by a large, fleshy mass that proved to be the body of the womb. Lifting the tumor up with the intravaginal hand, a slit or groove could be felt, by the hand upon the abdomen, running across its upper surface. The diagnosis of inverted uterus was easily made. In attempting the reposition of the uterus, pressure was made with the finger-tips of one hand against the inverted fundus, but at first without success. As soon as I pressed forward and upward, however, in the direction of the axis of the superior strait, the fundus yielded, and in a few seconds the womb was restored to its proper position and relations. During my efforts at reposition the woman's condition was most alarming. As soon, however, as reposition was effected, there was, as Porak aptly said of his case, a veritable resurrection. The woman improved at once, and from that time had no unfavorable

symptoms. I am at a loss to explain the inversion in this case. It was not due to my moderate traction upon the cord, but perhaps was begun by my efforts to detach the placenta with the hand in utero. The adherent placenta had undoubtedly some causal relation to the accident. Belin, in a recent paper, shows that inversion of the womb is almost always associated with adherent placenta. This observer, by the way, puts the frequency of inversion of the uterus at 1 in 190,000 labors. The

who died of the inversion,¹ and is more correct than many to be found in modern works.

I have next to report an interesting and rather rare form of compound presentation, namely, of the head, a foot and the umbilical cord. A compound presentation by the prolapse of a hand alongside the head is an occurrence of no great infrequency, and it is not very uncommon to see a prolapse of the cord alongside the extremity, an open space being left at that situation between the head and

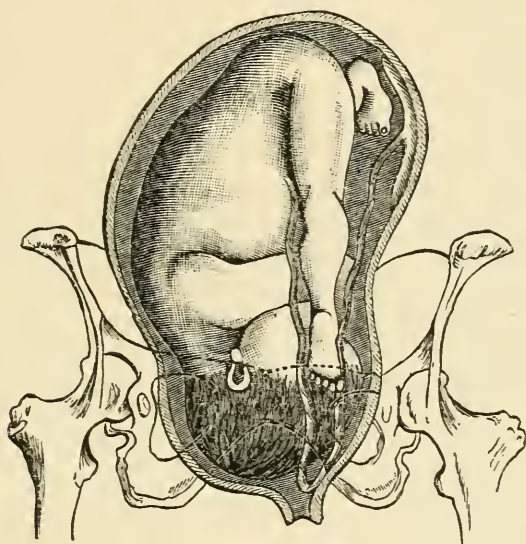


FIG. 1.

most important lesson I learned from this valuable experience was to press with my finger-tips upward and *forward*, in the effort to restore the uterus to its proper position. In order to do this, it was necessary to pass the hand far backward into the vagina and to bend the fingers forward. The illustration of an inverted uterus, which I here present, shows plainly the necessity for this manœuvre. The drawing was taken from the body of an unfortunate woman

the pelvic wall. The impaction of a foot and head together in the pelvis is a rarer complication in labor, especially if the child is of normal size. Quite recently, in the Maternity Hospital, we have had a case of the latter sort, a picture of which is here exhibited (Fig. 1).

The head presented by the vertex in a right occipito-posterior position.

¹ Refers to a drawing shown to the Society in the *Répertoire général d'Anatomie et de Physiologie pathologiques et de Clinique chirurgicale*, Tome 11, Paris, 1826

The toes of the foot could be plainly felt over the child's forehead. The head and foot descended together to the floor of the pelvis; the occiput refused to rotate forward, and after some delay went into the hollow of the sacrum. At some time in the second stage of labor the cord prolapsed so that it appeared externally at the vulva. It was just afterward that I first saw the patient. Everything being favorable for a rapid delivery, I put on the forceps, and in a few minutes extracted a living child. The case is interesting for several reasons: the presentation at once of head and foot, which is rare at term; the prolapse of a large portion of the cord; and the prevention of forward rotation of the occiput, by the foot acting like a wedge upon the forehead and preventing its backward rotation. The treatment adopted in this case is, I think, usually the best—namely, the application of forceps, without regard to the prolapsed extremity, or at least without attempting to replace it.

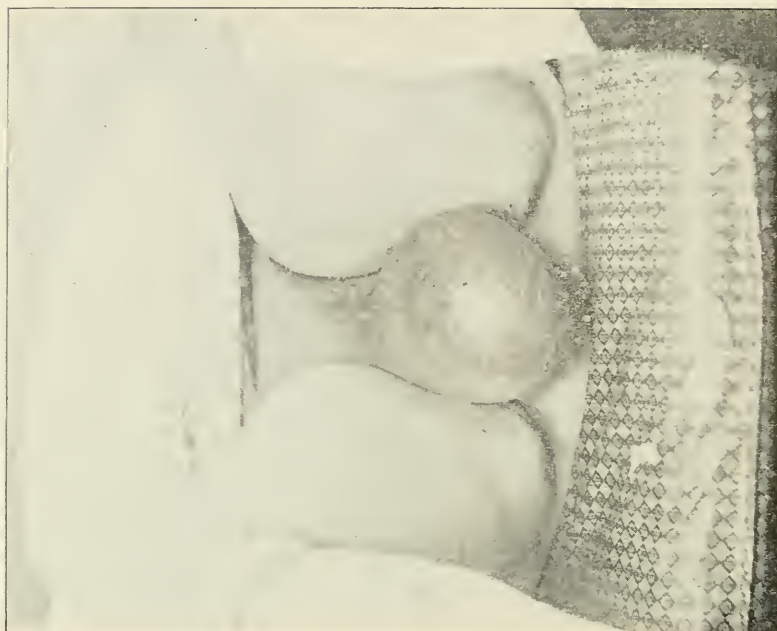
SPONTANEOUS REPOSITION IN PREGNANCY OF A UTERUS FIXED FOR MANY YEARS IN RETROFLEXION.

This case has several points of considerable interest. The patient is a lady in good circumstances, married for nine years. When I first saw her, some two years ago, the uterus was retroflexed and firmly fixed. On both sides there was fulness and tenderness; probably both tubes and ovaries were diseased. From the pathological history it is likely that the pelvic condition had existed at least since marriage, if not before. The subjective symptoms were not very severe—certainly not grave

enough to indicate an operation, though the physical signs, I judge, would have justified such a procedure in the minds of some operators. I adopted a systematic massage of the womb for some time with decided benefit as regards symptoms and with the result of increasing the mobility of the womb, but not to a sufficient degree to nearly permit its reposition. It still remained with the fundus behind on about the level of the cervix. At the expiration of two years, during the whole of which time the patient was under my care at intervals, a menstrual period was missed. On examination there were some of the objective signs of early pregnancy, with morning sickness. A month later it was almost certain that the womb was pregnant, though the diagnosis was obscured by the malposition of the womb, which remained tightly fixed in retroflexion. I began to contemplate the necessity of inducing abortion, but two weeks later, at the next examination I was astonished to find the uterus in perfect position. It is now the seventh month of gestation and there have been no untoward symptoms at all. The patient has always ardently desired maternity, and consequently is delighted at the prospect. The outcome in this case would support the view of those who hold that a retroflexed womb is more likely to be spontaneously replaced than a retroverted organ; but even in the face of numerous reported cases of spontaneous reposition, it is certainly uncommon to see impregnation in a marked retroflexion of the womb with evidences of inflammatory disease in both broad ligaments, and it is still more remarkable to witness a sponta-

PLATE I.

FIG. 2.



LARGE CYST OF THE RIGHT LABIUM.

[See Page 603.]

FIG. 3.



FIBROMATA REMOVED FROM A PUERPERA.

[See Page 603.]

neous rectification of the malposition in spite of firm adhesions of long standing.

INTRAPERITONEAL ABSCESS FROM GONORRHOEA.

The patient was a young married woman, infected by her husband with gonorrhœa. She had, when I saw her, typical symptoms of pyosalpinx. At the operation I found pyosalpinx on the right side, the tube being about as large round as my thumb, with thickened walls, but containing very little pus. Near the fimbriated extremity of the tube, which was closed, but not directly connected with it, was an abscess as large as an orange, on the mesentery, and closed in by an arching loop of small intestine. There had evidently been an ejaculation of gonorrhœal pus from the abdominal mouth of the tube before its closure. The right tube and ovary were removed, the abscess evacuated, actively bleeding surfaces on the intestine sutured and treated with Monsel's solution, the abdomen closed, but drained for about eighteen hours. The patient made a perfect recovery. I presume that this condition has been encountered by those who have large experience in operative treatment of pyosalpinx, but I had never seen anything like it and think that the independence of the abscess and its peculiar situation are somewhat remarkable.

LABIAL CYST.

The photograph exhibited herewith (Fig. 2) shows the external appearance of the cyst so perfectly that a description of it is unnecessary. It could, on examination, be differentiated from hernia, hydrocele of the round ligament and hæmatoma; but, although evi-

dently a cyst of Bartholin's gland, its size was most unusual. On incision, twenty-six ounces of a dark, chocolate-colored fluid were evacuated. The woman stated that the tumor first appeared nine years ago, two months after childbirth, as a swelling the size of a hickory-nut. It steadily but slowly increased in size to its present dimensions. The cyst did not refill after evacuation and the woman is now quite relieved. The right labium is undergoing involution, but is still somewhat hypertrophied.

REMOVAL OF INFECTED FIBROIDS AFTER LABOR.

I exhibit here two specimens of fibromata (Figs. 3 and 4) removed from puerperæ, one six weeks after labor, the other twelve days. In the first case, the tumors, two in number, were of moderate size, as may be seen. They could not offer any mechanical hindrance to labor as they were attached near the fundus. After delivery the woman had the symptoms of an infected endometrium, and it required vigorous antiseptics to conquer the alarming manifestations of septic infection. Although the fever and other systemic signs of infection in time abated, there remained some elevation of temperature without intermission. After waiting six weeks in the hope that the slight fever would subside, I determined to remove the fibroids, the presence of which had been diagnosed during pregnancy. The operation was an easy one, and two days afterward the patient had the first normal temperature since delivery.

The second specimen (Fig. 4), as may be seen, is a very large fibroid, reaching, before removal, from the fundus of the involuted uterus to the liver.

There was no difficulty in labor, but directly afterward, almost, there were symptoms of sepsis. After waiting twelve days, and finding the fever did not abate, I determined to remove the tumor. The operation was not difficult, although there were a good many adhesions, especially to the omentum, and there was free hæmorrhage. The patient recovered perfectly. From these two operations and the observation of cases treated expectantly by others, in a number of instances with a fatal result, I shall always hold myself in readiness to operate on fibromata after labor as soon as I can conclude that they are infected. The low vitality of these growths makes them peculiarly liable to septic invasion. Germs which the cells of the uterine body could conquer and destroy would survive if they once got access through the lymphatics of the womb to a fibroid tumor in or on the uterine walls.

TUBERCULOUS PERITONITIS, WITH EXHIBITION OF PUS-TUBE COVERED WITH TUBERCLES.

This interesting specimen (Fig. 5) was taken from a patient of Dr. J. K.

Mitchell, a young woman, aged 23, who gave the following history: She had been in good health until about five weeks before I saw her. At that time she had gone out thinly clad while menstruating and had taken cold. The flow stopped, symptoms of peritonitis appeared and have persisted for the last five weeks, but latterly not in their original intensity. I was asked to examine the pelvic organs to see if anything there accounted for the trouble. I found a large, sensitive mass in Douglas' pouch and urged a section, which was done the following week. I found a large pyosalpinx, with general, diffuse, tubercular peritonitis and ascites. The pus-tube was removed and the abdomen well flushed. This was more than twelve weeks ago. I fear that the girl is generally tubercular, for while all peritoneal symptoms have disappeared, there is still fever. It is an interesting question whether one should remove anything from such a peritoneal cavity leaving a raw stump behind, whether this would not favor the general invasion of the body by the tubercle bacilli.

Irrigation of the Peritoneal Cavity in Puerperal Sepsis: Complete Removal of the Uterus for Multiple Fibromata.

BY DR. EDWARD P. DAVIS.

THE propriety of opening the abdomen of the patient suffering from puerperal sepsis, in whom pyosalpinx, ovarian or uterine abscess,

or abscess of the broad ligament is present, requires no discussion. It is my purpose to-night, by describing a case of irrigation of the general

PLATE II.

FIG. 4.



FIBROMA REMOVED FROM A PUERPERA.

[See Page 603.]

FIG. 5.



PYOSALPINX AND TUBERCULAR PERITONITIS.

[See Page 604.]

peritoneal cavity, to raise the question as to the advisability of such irrigation in the absence of pelvic abscess, but where the lymphatics of the peritonæum are the seat of a septic process.

The patient was a Russian woman, aged 23, confined amid surroundings of filth, and sustaining at labor a laceration of the perinæum. She was admitted to the Philadelphia Hospital, a few days after confinement, in a septic condition; the perinæum was closed, the patient was given vaginal douches of bichloride of mercury solution, and soon after admission to the hospital her uterus was curetted and douched with creolin, and an iodoform suppository of sixty grains was placed within the uterus. This was followed by a fall of temperature to normal, her fever, however, soon returning. She had been under the care of a colleague, but came temporarily under my care a few days after. She then complained of almost constant pain throughout the abdomen, especially in the upper portion. Her respiration seemed painful, by reason of the movements of the diaphragm and its disturbance of the abdomen. The intestines were tympanitic, but the abdomen was not greatly distended. Her temperature was 102, her pulse rapid, and her general expression was pallid, indicating a decided septic infection. There was no evidence, upon examination, that a collection of pus existed in her pelvis; it was, however, thought best to open the abdomen and thoroughly inspect the pelvic organs. Accordingly, the patient was anæsthetized and placed in Trendelenburg's posture in a good light. Laparotomy enabled the operator to inspect the

uterus, ovaries and broad ligaments with comparative ease. As had been anticipated, no collection of pus was found in the pelvic organs; the uterus had undergone a fair involution, the peritonæum was free from lymph or pus, but was reddened and turgid.

It seemed probable that a general peritonitis was beginning, and accordingly the peritonæal cavity was irrigated with four gallons of a saline solution, 3.10 per cent. sodium chloride, 3.10 per cent. sodium bicarbonate, at a temperature of 110° F. The fluid was especially directed among the intestines and high up in the abdomen, beneath the diaphragm. Following this, one gallon of boiled water was also used; the fluid returned almost clear, a slight turbidity and a few flakes of lymph being present. A drainage-tube was then inserted to the bottom of the pelvis, through which, twenty-four hours after the first irrigation, the abdomen was again flushed with saline fluid as the patient lay in bed; the drainage tube was shortly afterward removed, and a single strip of iodoform gauze was carried into the pelvis to indicate the presence of pus, should suppuration occur. This was soon removed, and the abdomen closed. The irrigation was followed by a marked improvement in the patient's symptoms; her complaint of pain ceased, her temperature fell to normal and remained so for a week. She then suffered from a rise in temperature to 102°, but careful examination of the abdomen failed to reveal signs of peritonitis.

Pain in the joints was present, and it was thought that septic inflammation in the joints had supervened. The use of free purgation, sponging

and alcohol resulted in the cessation of these pains. They recurred afterward with less severity, but have almost entirely disappeared. At present the patient is in the enjoyment of comfortable health, and is steadily gaining in flesh and strength.

In view of the discouraging statements of many obstetric text-books to the effect that in general peritonitis it is useless to open the abdomen, it seems of value to place upon record any experience in this procedure. From personal experience the following may be suggested as rational treatment in puerperal sepsis: (1) Thorough disinfection of all puerperal ulcers, with four vaginal douches of bichloride of mercury solution 1 to 4,000 in twenty-four hours, accompanied by purgation with salines; turpentine stupes may be used to relieve abdominal pain. If fever and foul lochia are present the uterus should be curetted and thoroughly douched and tamponed with iodoform gauze, or sixty grains of iodoform in a suppository placed within its cavity. Intrauterine douches should be continued at intervals for not longer than forty-eight hours. If no improvement follows, the patient should be placed in Trendelenburg's posture, the abdomen opened, the pelvic organs inspected, foci of suppuration so discovered extirpated, or, if the general peritoneal cavity has begun to be involved, free irrigation should be practiced. A difficult point to determine, and one whose discussion cannot fail to be of value, is the question, What indications justify the opening of the abdomen and the practice of radical interference?

I desire to report in addition, a case of total extirpation of the uterus for

multiple fibromata. The disadvantages of leaving a stump after hysterectomy, and the dangers attending the total extirpation of the uterus, have been drawbacks in hysterectomy. The aim of the surgeons has been more and more to avoid leaving behind that which was a source of danger, as expressed by a gynecologist, who said "that it was not what was removed in hysterectomy, but that which was left behind, which resulted in disaster." Total extirpation of the uterus for cancer has suggested the application of the same procedure for fibromata, and the method of Freund, Bardenheuer, Martin and Chrobak, has been brought before the American profession by Krug, of New York, Ross, of Toronto, and Eastman, of Indianapolis. Krug's method, as stated in the *New York Journal of Gynecology and Obstetrics*, January, 1892, is doubtless familiar to the members of this society. He reports six cases, five of which recovered. The following case may suggest to those who practise this method, points of interest and improvements in the technique of the operation:

The patient was a colored woman, ignorant of her own age, but apparently about 30. She gave no history of pregnancy, parturition, or septic disease. She said that for some time she had suffered from a sensation of weight in the pelvis, and that her abdomen had enlarged. About a year before admission to the Philadelphia hospital she had what she termed chills and fever; after that her health steadily declined; she suffered from obstinate constipation, and from disturbance of the functions of the bladder, and for several months had been obliged to lie down most of the time,

unable to work. She had presented herself at one of the hospitals of the city for treatment, but operation was not desired by the surgeon in charge.

On admission to the Philadelphia hospital, the patient was found to be in fair physical condition. She suffered from a slight bronchial catarrh, which yielded readily to treatment. The urine was normal, and the condition of the viscera, so far as could be determined, was normal. The cervix was small and pushed up behind the symphysis pubis. The pelvis was filled with an irregular slightly elastic mass, and through the abdominal wall could be felt nodules of various sizes. A diagnosis of multiple fibromata was made, and the patient requested an operation. After suitable preparation, and with the kind counsel and assistance of Dr. Montgomery, it was determined, if possible, to operate by total extirpation of the pelvic mass. The vagina was first disinfected by injections of creolin, 2 per cent., and green soap. Its mucous membrane was further cleansed by thoroughly swabbing it with a towel dipped in the creolin and green soap mixture. The cervix was too small to admit a tampon of iodoform gauze. The patient was then placed in Trendelenburg's posture, and the abdomen freely opened. The bladder was spread out upon the anterior surface of the tumor, and narrowly escaped injury. It was dissected off, when the mass was found adherent to the omentum above. These adhesions were separated, when it was observed that the fibroids had extended into the right broad ligament, almost filling the space between its layers. While separating adhesions between the tumor and intestines, an abscess cavity was opened,

situated behind and below the uterus and fibroids. Several ounces of very dark, foul pus escaped. This cavity was freely irrigated by a constant stream of boiled water until thoroughly emptied. The right broad ligament was then incised, and the pelvic mass brought up to the brim of the pelvis. It was necessary to ligate portions of the ligament, one of which closely resembled the ureter in appearance. The broad ligaments were then tied close to the tumor with strong silk, the ends of the ligatures being left long. By dissecting close to the tumor the mass was then severed from its connections, the vagina was incised at its juncture with the cervix, and the uterus, tumor, and left tube and ovary were removed. A few bleeding points in the peritoneal and pelvic tissues were then ligated, and the ligatures were brought out through the vagina. The abdominal cavity was irrigated freely with boiled water, and the ligatures were pulled upon gently to turn the stumps downward into the vagina. Iodoform gauze was then packed into the pelvis, one end of the strip being brought into the vagina with the ligatures. The abdomen was then completely closed. The patient reacted well from the operation, transfusion with saline fluids into the connective tissue in various portions of the body having been resorted to during the operation.

As soon as she recovered from the anæsthetic, she was raised to a semi-recumbent posture to favor drainage. The patient was catheterized, and bichloride cotton was used as an occlusion dressing over the vulva. Six hours after the operation the occlusion dressing was stained with bloody serum. As the patient gained in

strength she was gradually raised to a semi-sitting posture, the drainage continuing free. Her temperature rose to 101° after the operation, but declined steadily. Her general condition was good, she passed a fair amount of urine, and the bowels were moved freely by injections. The abdominal wound was re-dressed a few days after the operation, and found to be in good condition. Five days after the operation the patient's temperature sank to normal, and then to 97° F. It was feared that injury had been done to one or both of the ureters, although a fair amount of urine was passed, and no other symptoms of uræmia were present. She complained of considerable abdominal pain, and on the fifth day the gauze was forced into the vagina and protruded from the vulva. It was removed, its removal occasioning the patient some pain, but caused no shock. The vagina was carefully irrigated with saline solution, and fresh gauze replaced as gently as possible. The patient's intestines became gradually tympanitic, and her bowels were moved with difficulty. Her temperature continued below the normal, she became unable to retain nourishment, and died of apparent exhaustion six days after the operation.

A post-mortem examination was obtained forty-eight hours after death; the abdominal incision was found agglutinated, peritonitis was absent; the large intestine was considerably distended, the small intestine moderately so. There had been no hæmorrhage. Upon inspecting the pelvic cavity it was found that several coils of small intestines had fallen low in the pelvis, and were slightly adherent to the surfaces where the tumor had

been, separated from the surrounding pelvic tissues. The kidneys were found and the ureters carefully dissected to the bladder; neither had been injured. There had been but little attempt at granulation at the upper end of the vagina, although the stumps of the broad ligaments were still turned downward as they had been left after the operation. The viscera were healthy. There was a cystitis of moderate severity present, such as is often seen after labor, in cases where a catheter is used for a considerable time.

The most rational explanation of the fatal issue of the case seems that the intestines had become adherent to the surfaces at the upper extremity of the vagina, either before the gauze was removed or shortly afterward, and that peristalsis had been prevented, and ptomaine intoxication and death had resulted. The indications afforded by the case seem to be, to so close the upper portion of the vagina after the removal of the uterus that no surface shall be left to which intestine can readily become adherent. This may possibly be done by bringing the stumps down into the vagina, as in the present case, stitching the peritonæum over the upper end of the vagina from above, cutting the ligatures short, tamponing the vagina with iodoform gauze, and carrying a drain of iodoform gauze to the bottom of the pelvis from above through the lower end of the abdominal incision. This should be removed as soon as possible. Points of interest which developed at the operation were the comparative ease with which this method was carried out, the absence of great shock, and the excellent drainage afforded by the gauze pack-

ing and the posture of the patient. The superiority of Trendelenburg's posture was very apparent during the performance of the operation. Within the last few weeks this method has been tried three times in Cincinnati. Two of the cases were successful; one

was fatal. In correspondence, one of the operators states that he also had been impressed with the necessity for closing the upper end of the vagina. With this modification it is believed that the method may prove of decided value.

Report of Abdominal Operations for 1891.¹

BY C. A. KIRKLEY, M.D.,

TOLEDO, OHIO.

UNCOMPLICATED abdominal section is an operation so frequently done, is so simple, and its details are so familiar to every one that a report of such a case is not only uninteresting, but unprofitable; but cases in which trials and difficulties beset us impress their lessons. With the hope, therefore, that the following cases may not be unprofitable, and that they may even serve as "breakers ahead" to the inexperienced, they are reported to you. The task of reporting one's blunders and failures is not an easy or enviable one, but guide-boards as they are, they often point out a correct line of practice. He is stupid, indeed, who would make the same blunder twice. It may be said in defence of the report that the fatal cases, except perhaps two, were not promising at the time of operation, but the patients were given the chances to which they were entitled.

CASE I.—December 22, 1890. Mrs. K., of Toledo, gave the following history: Age 27 years; light complexion;

married in 1885; mother of one child, now 4 years old. She was very much emaciated, and had been ill since the birth of her child, at which time she had an attack of pelvic peritonitis, which has recurred more than once. The present severe illness began four months ago, has been attended with great pain, and has shown no sign of improvement. The temperature constantly above normal; the abdomen slightly distended, tender to the touch in the lower part, and on the left side a distinct circumscribed hardness. The uterus was enlarged, retroverted, crowded to the right side of the pelvis, very tender to the touch and fixed. The menses began at 15, had always been irregular, and very painful since the birth of the child, and had not appeared for the last two months. Dysuria was a constant and troublesome symptom. The nervous system was in an irritable and debilitated condition from pain and loss of sleep, and hysterical attacks frequently occurred. The diagnosis was tubo-ovarian disease of the left side, and though the prognosis was doubtful, laparotomy

¹ Read before the Ohio State Medical Society, May 5, 1892.

was the treatment advised. Drs. Bond and Collamore saw the case in consultation, and fully concurred in the diagnosis and treatment advised. January 9, 1891, laparotomy was performed at the patient's house. Dr. G. L. Thorne giving the anæsthetic and Drs. G. A. Collamore and Nellie F. Hollister assisting. Dr. F. Braun was present by invitation. Adhesions were firm and extensive, but hæmorrhage slight, though the mass, which extended to the crest of the ileum, was removed with the greatest difficulty. It was irregular in shape, consisted of the left degenerated tube and ovary, was very hard in places and malignant in appearance. The condition of the patient did not warrant a thorough examination of the opposite side, but as far as could be ascertained the tube and ovary of that side were not diseased. This was an unusual and interesting feature. Though the patient was greatly exhausted from the operation, she rallied well, but died on the evening of the second day. Dr. Landman kindly made a microscopic examination of the specimen, and considered it a case of spindle-cell sarcoma. The father is said to have died of cancer of the stomach four years previously.

CASE II.—This patient was operated upon December 31, 1890, and is included in this report because of its unusual interest. Mrs. S., of Oakwood, O., aged 31, married in 1884, mother of one child, now 3 years old. She was a frail-looking woman, light complexion and an active, industrious housewife. Inguinal glands were slightly enlarged on the left side and there was great tenderness over the left broad ligament. The uterus was low down in the pelvis and yet en-

larged and tender from an attack of metro-peritonitis, which occurred early in September, 1890, since which time she had been in almost constant pain. The menses were regular, began at 15, and did not again appear for a year. Dysmenorrhœa has been constant and severe since the birth of her child. Severe pain in the head, left side of the pelvis and sciatic nerve has been constant for months, and morphia has been depended upon for its relief. The mother and a brother died of phthisis. The first sign of ill-health began at the birth of her child, with an attack of puerperal fever, and since that time she has had recurrent pelvic peritonitis once in two or three months. Laparotomy was performed at the St. Vincent Hospital; Dr. Geo. L. Thorne giving the anæsthetic, and Drs. G. A. Collamore and Nellie F. Hollister assisting. Drs. G. A. Hollister, of Toledo, J. C. McClung, of Leipsic, and A. C. Sherrard, of Oakwood, were present by invitation. The anæsthetic was not well borne. Adhesions were firm and hæmorrhage slight. The mass removed consisted of the tube and ovary of the left side. The tube was as large as the middle finger, its walls thickened and the fimbriated end closed. The ovary was twice its normal size and undergoing cystic degeneration. An indurated mass of omentum, as large as an English walnut and adherent to the fundus uteri, was also removed. The patient did well for three days, when the pain returned with its old-time severity. It was just as severe and required just as much morphia for its relief as before the operation. During the month of January, 1891, the history was turbulent and discouraging for the most part. Though

the pulse was 88 most of the time and the temperature normal, the former reached 120 at times and the temperature rose to 102°. The drainage-tube was removed on the second day. The abdomen was but slightly distended at any time. Though due antiseptic precautions were taken at the time of operation, there was an abscess at each and every stitch-hole on both sides of the incision, the lower angle of which had reopened—if it had united at all—to allow pus to escape from the pelvic cavity. Though everything went wrong and the outlook anything but encouraging, she improved sufficiently to leave the hospital on February 9. Though the stitch abscesses did not heal, not much pus was secreted, but an enormous quantity came from the lower angle of the incision. This made it improbable that the subcutaneous cellular tissue or the stitch abscesses were its source. It must, therefore, have come from the pelvic cavity. March 5, 1891, Dr. Landman found tubercular bacilli in the pus. March 10, 1891, I saw Mrs. S. at her home. She had gradually grown worse, and was now greatly emaciated, having the appearance of one in the last stage of phthisis. After consultation with Drs. Hixon, McClung, Sherrard and Hollister, it was decided to reopen the pelvic cavity with the hope that washing out might be facilitated and more thorough drainage established. (I am under many obligations to the above-named physicians for their valuable counsel and assistance.) The cicatrix was separated from two to three inches, was very thin and in several places perforated by ulceration. About an inch of the lower end of the cicatrix was entirely separated, the angle of the incision

never having united at all, thus exposing a granular surface. An incision about two inches long was made to the left of the old cicatrix, over the rectus muscle. Just beneath the skin the same granular structure was encountered, which, after careful and repeated examination, was supposed to be degenerated peritonæum, as the subcutaneous structures had all disappeared. Instead, however, it proved to be degenerated and dilated intestine, adherent to everything in contact with it. The parietal and intestinal peritonæum could not be distinguished, they together constituting a degenerated mass. The opening in the intestine, so unfortunately made, was closed by a Lembert suture, in so far as the degenerated surfaces could be brought together. The slightest traction upon the suture would cut out unless the greatest precautions were taken. On exploring the pelvic cavity with the finger it was found to contain a degenerated mass, the organs not distinguishable. The cavity was washed out with clear warm water and a flexible drainage tube inserted. The incision was closed by interrupted suture with the hope that union over the adherent intestine would more securely close the unlucky hole. The patient was greatly relieved, and improved for about a week, at the end of which time a fæcal fistula appeared. An unsuccessful attempt was made to close it by means of rubber plates. The incised tissues had not shown the slightest disposition to unite. A week later Dr. S. S. Thorne, of Toledo, considering it useless to attempt to close the fistulous opening, attempted to stitch the margins of the opening to the abdominal wall, thus forming

an artificial anus. The separated parts were then brought together by suture. Dr. Thorne's effort was also unsuccessful. The patient died about the last of March, three months after the operation. This was one of those unfortunate cases in which operation was worse than useless.

CASE III.—Mrs. G., Oak Harbor, O., aged 36, mother of five children, the youngest 6 months old, was operated upon March 25, 1891, at St. Vincent Hospital. She had been under the care of Drs. S. S. Thorne and W. D. Stewart, of Toledo, at the request of Dr. J. M. Stewart, of Oak Harbor, all of whom were present at the operation. Drs. Geo. L. Thorne and Nellie F. Hollister assisted, Dr. Thorne giving the anæsthetic. A definite history in this case was not ascertained. The uterus was normal in position, but fixed, and the pelvic roof was hard and very tender to the touch. Pus was discharging freely through an opening in the anterior vaginal wall, made by the surgeons three weeks previously, when two to three ounces of pus were evacuated. Adhesions were very firm and extensive, and the suppurating appendages from each side were removed. The pelvic cavity was thoroughly flushed, and a drainage tube inserted. The patient never rallied from the operation and died within about twelve hours.

CASE IV.—Mrs. C., 55 years old, widow, a housekeeper, mother of one child 15 years old. The abdomen was considerably distended, the largest circumference measuring thirty-three inches and distinctly fluctuating. The uterus was atrophied and occupied the hollow of the sacrum. From the time of her marriage, in 1873, until her menses ceased, in 1878, she had

dysmenorrhœa. She noticed her enlarged abdomen about four months ago, which was the real beginning of her illness. The diagnosis was parovarian cyst. Abdominal section was advised and performed September 25, 1891, at the St. Vincent Hospital; Dr. G. A. Collamore assisting, and Dr. Jas. Donnelly giving the anæsthetic. Drs. Aris Bond, G. A. Hollister and Haynes were present by invitation. The uterine appendages were perfectly normal. It may be said, in extenuation of this error in diagnosis, that the peritonæum was about the eighth of an inch in thickness and was not recognized at all until the escape of ascitic fluid. A drainage tube was inserted and retained for two days. The patient did well for two or three days, when a troublesome diarrhœa began, which, however, was relieved within three or four days. She absolutely refused nourishment and stimulants of every kind, and deliberately expelled them when given per rectum; insisted both before and after the operation that she would die, and finally died on the seventeenth day after the operation. The lessons in this case were impressive. One was the misleading resistance of the thickened peritonæum, so closely resembling cystic resiliency, and the other demonstrated the inadvisability of operating in cases in which the patient does not desire to live. Opening the abdomen should have prolonged this patient's life.

CASE V.—Mrs. H. L. K., aged 29, married May 27, 1891, dark complexion and cheerful disposition. The abdomen measured 35 inches in its largest circumference, the enlargement being on the left side. The uterus was crowded to the right side

of the pelvis, was tender to the touch and fixed. The menses were regular, lasting five days, normal in amount, with much pain the first day, and began when she was 16 years old. She had occasional attacks of hysteria. I had removed an ovarian tumor from the right side seven years previously. She first noticed the present tumor in August, 1891. The diagnosis was ovarian cyst of the left side, and the treatment advised ovariectomy, which was performed at the St. Vincent Hospital, December 2, 1891; Drs. G. A. Collamore and Hattie D. Walker, assisting, and Dr. J. L. Tracy giving the anæsthetic. Dr. B. Becker was present by invitation. There were no adhesions, no hæmorrhage, and, therefore, no drainage tube was used. The cyst contained about two quarts of straw-colored fluid, and weighed about one pound. In the evening, at 9 o'clock, I found the patient completely collapsed from secondary hæmorrhage, with a pulse of 160 and temperature 100°. At 9 o'clock the next morning she was improved, and at 6 o'clock in the evening she was still improving, but there was some distention. Improvement continued until the morning of December 5, when it was ascertained that she had been vomiting for the last ten hours. At 11 o'clock at night the lower part of the abdominal incision was reopened, the pelvic cavity washed out and a drainage tube inserted. The pelvic cavity was filled with dark blood, and some clots, and when the incision was reopened, gas escaped from the peritonæal cavity. December 6, at 8 A.M., the patient died from septicæmia, produced by decomposition of retained blood with-

in the pelvic cavity. There was no recurrence of hæmorrhage after flushing. Dr. Collamore saw the patient twice in consultation. I am censurable for not reopening the abdominal cavity on the morning of December 3; but as the hæmorrhage had ceased, it was thought best to rely upon the absorbing power of the peritonæum. A post-mortem examination was not asked for, therefore the real cause of hæmorrhage cannot be given. The thin pedicle was tied with the Staffordshire knot, and the ligature again thrown around it as an extra precaution. The operation was very simple, and when completed no case could have been more promising.

Some of the cases operated on during the year recovered, and though some of them were very interesting, a detailed report of them would be too long; those recovering, therefore, will only be mentioned, viz.:

Jan. 22, 1891.—Ovarian cyst.

Feb. 28, 1891.—Fibroid degeneration of ovaries.

Sept. 18, 1891.—Ovarian cyst.

" 28, " —Cystic degeneration of ovaries.

Sept. 29, 1891.—Ovarian cyst.

Oct. 22, " — " "

" 28, " —Hysterectomy for myoma.

Nov. 12, 1891.—Fibro-cystic disease of both ovaries, and sub-peritoneal fibroid, springing from the fundus uteri.

Nov. 17, 1891.—Ovarian cyst.

" 25, " — " "

Dec. 14, " —Ectopic pregnancy.

" 15, " —Ovarian cyst.

A total of seventeen operations and five deaths.

CORRESPONDENCE.

*To the Editor of the ANNALS OF
GYNÆCOLOGY AND PÆDIATRY.*

DEAR SIR: In a recent issue of a medical journal, published in Philadelphia, one of the editors places his name to an article upon "The Prophylaxis of Gonorrhœa," seven columns in length, that is a disgrace to the medical profession. From beginning to end it panders to vice, and raises the question in one's mind as to how many young men may have been led into paths of evil, privately, by that individual, who holds a clinical professorship in one of our colleges of medicine. It is sad to think that so many of our medical colleges have among their professors men who are willing to pander to vice, and who openly teach the young men to go to houses of ill-fame, under the false assertion that it is necessary for their health. No thinking woman can ever be made to believe that God so created the sexes that certain of one sex should be dragged into hell—soul and body—in order that the other sex might enjoy bodily health. Those who teach this doctrine are men who have never learned to control their own passions, and, judging from themselves, jump at the conclusion that all men are like themselves.

Libertinism is a sword that cuts into the very soul of every man who indulges in it, and forms gangrenous wounds that blacken his mind till all the higher part of his nature is blotted out. Neither does this want of moral sense end at his death, if he have children, but under the curse that visits the sins of the father upon the chil-

dren, even to the third and fourth generation, they too are gnawed by an unholy passion that forces their feet into the same evil paths.

The public at large looks to the graduate in medicine to teach them what is right and what is wrong in regard to the care of their bodies and the indulgence of their passions; and when our young men go out of their college life with their minds poisoned with the teaching that prostitution is right and proper, and with vulgar ideas in regard to women, which they have imbibed from the vulgar jokes indulged in by professors in regard to women and the sexual relation, how can one expect that they will teach high-toned morals to the men of the world?

Now this sort of thing is going on in nearly all the medical colleges where young men are taught. In nearly every one professors are to be found who urge the young men into houses of prostitution by holding up the necessity for such places. And many in the ranks of those who teach diseases of women, are not ashamed to indulge in vulgar speech and insinuations that tend to instil into the receptive mind of many a future doctor a contempt for woman that taints the whole of his after life. When, as often happens, the man who thus debases himself is brilliant in his branch, and taking in his manners, the more demoralizing is his influence among the students.

Brilliancy does not compensate for immoral teaching. Every college should see to it that only men of

good morals are placed over the youth of our beloved land. No race can rise to a high plane that debases its women and fosters contempt for the other sex in the minds of its men. The standard of morality must be the same for both, for men and women rise and fall together. And just as a

chain is no stronger than its weakest link, so is it in society. That society only is truly strong whose individual members are pure in thought and word and deed.

MARY E. ALLEN, M.D.

346 S. Sixteenth Street, Philadelphia.

TRANSLATIONS.

Pernicious Anæmia.

Rev. Mens. des Mal. de l'Enfance. March, 1892.

ESCHERICH (*Wiener klinische Wochenschrift*, March 31, 1892), has reported a case of pernicious anæmia in a child aged four years and two months. It had always been pale and had suffered from otorrhœa, and had had at one time an attack of hæmorrhage. The anæmia increased after the child had been vaccinated. The extreme paleness of the skin and mucous membrane were remarkable. There was no organic affection, or hypertrophy of the spleen. The child was of a nervous temperament and had attacks of

tinnitus aurium. The blood showed a reduction of red blood corpuscles below a million. There was a notable difference in the dimensions and coloration also. The white blood corpuscles were present in the proportion of 7,000 to the cubic millimetre. The per cent. of hæmoglobin varied from ten to fifteen. Transfusion of blood was done without avail, and the usual medication was employed. The post-mortem on the child showed the characteristic lesions of pernicious anæmia.

Diuretin in Infantile Therapeutics.

DEMME (*Annuaire de Therapeutique*, April 8, 1892), recommends the following prescription of diuretin as a good diuretic for children, showing no disagreeable after-effects, acting probably on the epithelium; and of especial value in scarlatinoid nephritis:

R.	Diuretin . . .	1.50 grammes.
	Distilled water . .	100 grammes.
	Cognac . . .	gtts. x.
	Sugar . . .	2.50 grammes.

P. S.—To be taken in divided doses in twenty-four hours.—*Sémaine Médicale*.

Nephritis Following Skin Disease.

Rev. Mens. des Mal. de l'Enfance, March, 1892.

LEONIDA CUNAL (*Arc. Ital. de Ped.*, March, 1891) reports four cases of acute nephritis following impetigoid eczema, of more or less extensive area. In all the cases the urine contained a large quantity of albumin, renal tube casts, epithelium, etc. Bouchard has thus been able to produce albumin experimentally in animals, by irritation of the skin. One of the cases died, but no post-mortem was

obtained. Guaitu has also reported a fatal case consecutive to skin disease. Decio Felici has had two cases of nephritis from eczema. He considers that the eczema allowed certain pathogenic organisms to enter the circulation and thus produced the renal irritation, as the amount of skin involved was too small to seriously interfere with the normal eliminating action of the skin.

A Preliminary Sign of Pertussis.

Rev. Mens. des Mal. de l'Enfance, March, 1892.

HUGUIN (*Médec. Méd.*, July 2, 1892) thinks that photophobia, with dilatation of the pupils, is a preliminary sign of pertussis. By means of this sign he has been able to diagnose pertussis

before the characteristic whoop. Increase of lachrymation and conjunctivitis have already been described as preceding the attack.

Urinary Secretion in the New-Born.

Rev. Mens. des Mal. de l'Enfance, March, 1892.

GIOVANNI BERTI, at the Pædiatric Congress, held at Naples in 1891, read a paper on the above subject. His researches are based on twenty-eight children, of whom twenty-four were strong and at term, two feeble, but at term, and two before term. All were nourished by wet-nurses. This is important, as a child would receive more milk in this manner for the first few days than if it had been nursed by the mother. The proportion of urine passed to the weight of the child is as follows :

1st day after birth, per kilo., 15 gr.				
2d	"	"	"	30 "
3d	"	"	"	44 "
4th	"	"	"	60 "
5th	"	"	"	71 "
6th	"	"	"	83 "
7th	"	"	"	91 "
8th	"	"	"	81 "
9th	"	"	"	88 "
10th	"	"	"	76 "

The usual statement is confirmed that the amount of urine passed in the day was more than that voided in the night.

Partial Resection of the Diseased Ovary and Tube.

DR. AUGUST MARTIN, of Berlin, has systematically practised the partial removal of ovaries not entirely diseased. In some cases he has also resected a part of the tube, and made, by suture of the mucosa to the serous coat, a new ostium. This proceeding has been termed "salpingostomy" by Dr. Kutsch, of Jena, and has also been adopted by Wallace and Schröder. Dr. Martin, as the result of his experience, published in Volkmann's *Klinische Vorträge*, came to the following conclusions:

"Patients recover perfectly after partial removal of ovaries for localized chronic inflammatory changes, hydrops folliculi and oöphoritis. Recovery is also complete, in most cases, after the resection of obstructed and otherwise diseased tubes." The after-histories of seventeen patients operated upon by Dr. Martin prove that

women with resected ovaries and tubes are not more exposed than other women to further disease of the parts left behind. Menstruation continued in all the cases, and some conceived. Dr. Martin notes that in 1864 Sir Spencer Wells emptied some dropsical follicles in one ovary of a young girl, having just removed its fellow. The girl afterward married and had children. The first resection of the ovary, performed intentionally, was undertaken by Schröder in 1884. A dermoid cyst occupied a part of an ovary (the fellow in this case also formed a tumor and was removed), it was cut out, and the wound in the ovary was sewed up. The patient appears, according to a note in Hofmeier's *Grundriss der Gynækol. Operat.*, to have conceived after the publication of Schröder's own report of her case.

Diphtheria.

S. V. Cottrell, in Paper and Discussion of New York Academy of Medicine, Jour. American Med. Association.

DR. J. E. WINTER finds weak solutions of carbolic and boracic acid have a germicide effect on the Klebs-
löffler bacillus, which he assumes is the cause of this disease. His method of attack is by means of irrigation, carried on through the nose by a Davidson syringe. If necessary irrigation may be done through the mouth, carrying the pipe between teeth and cheek. Every two hours is the time limit in ordinary cases. Steam kettle with medicated water, 1 pint of water, 5j turpentine and 3ii oil of eucalyptus are the right proportions. Sulphurous acid gas, obtained

through the burning of sulphur candles, are also of value.

The use of bichloride of mercury is advised by Dr. A. Jacobi, in doses of quarter of a grain a day to a child of six months. The diarrhœa is easily controlled by a few drops of paregoric. Stimulation should be resorted to early, not waiting for signs of heart-failure, and here the choice of the stimulant is brandy. Camphor, digitalis and alcohol, if rejected by the stomach, should be given hypodermically. One part of camphor in four of sweet almond oil may be put under the skin with but little local irritation.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 2, 1892.

THE PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

TRENDELENBURG'S POSTURE IN GYNÆCOLOGY, WITH DEMONSTRATION OF A CONVENIENT APPARATUS FOR OBTAINING THE SAME. BY DR. FLORIAN KRUG. (See page 583.)

Dr. Florian Krug, of New York, after reading his paper, exhibited an apparatus for securing Trendelenburg's position. For its advantages over other apparatus, he claimed that it could be made antiseptic, could be placed at any angle and fastened to any kind of a table; that it did not weigh quite twenty pounds and was easily portable. Furthermore it had the advantage of being cheap.

DISCUSSION.

DR. MONTGOMERY :

I have followed the suggestion of Dr. Krug, and have used a similar contrivance. It is very advantageous, and the position is what the doctor recommends it to be. Everything can be seen while operating, as all the organs are under the eye. It demonstrates all the steps of an operation. Students pronounce it most satisfactory, as they are enabled by it to see every part of the operation. It calls to my mind the manner in which the farmers, when I was a boy in the country, spayed pigs.

DR. WM. GOODELL :

I have nothing but commendation to offer for Trendelenburg's position. I saw it for the first time in Germany, last summer. There is nothing like it for bad adhesions. I used it last week before the summer class, and I dare say it is the only time the students ever saw all the steps of an operation. It enables the eye and hand to work together. When the woman is in the usual horizontal position, the recti muscles sometimes refuse to relax, no matter how far the ether is pushed; but in the Trendelenburg position this embarrassing rigidity never happens. I aided a

friend to-day in a bad case of adherent pus tubes. Nothing could be done intelligently until this position was used, then he was enabled to see the parts and to prevent the pus from escaping into the peritonæal cavity. It is indispensable in complete suprapubic hysterectomies; and is an admirable position in which to perform supravaginal amputation for fibroid tumor. One can see everything in these trying cases, and it is, therefore, an invaluable aid.

I think the apparatus which Dr. Krug has devised is simplicity itself and far less cumbersome than the one I brought from Germany.

DR. HIRST :

The only disadvantage of Dr. Krug's device is its cumbersomeness. This afternoon while in the train, I thought of something that would answer the purpose equally as well, and the materials necessary for its construction at the bedside can be readily carried by the surgeon. I made a drawing of this and will pass it around.

DR. E. P. DAVIS :

The point of simplicity which Dr. Hirst makes is a good one. A strong high-backed rocking-chair, with the rockers removed, answers the purpose admirably. The chair is turned upside down, and the legs of the patient are allowed to hang over the back of the seat. I have operated on six cases, using the broken rocker to obtain this position. It is very satisfactory.

DR. BALDY :

I like the Trendelenburg position. In one case I improvised a table for that purpose, but it proved to be too high for easy work. I was convinced of the utility of the position for certain cases, but the majority of cases are too simple to make use of this method.

DR. J. PRICE :

As yet I have not given this position a trial. I will not criticise the apparatus, but will criticise our old methods, to which exception has been taken.

Dr. Krug says this has come to stay. This was the cry of the confederate soldiers at Gettysburg, and they *did* stay. Some one says the position has special advantages for dealing with fibroids in the pelvis and for hysterectomies. I do not want fibroids at the level of my head to do good surgery. You can saw the table off if you like. Accidents are liable to occur working at this height. Had I not followed the plan which I did, my hysterectomies would have been failures. I have never convinced myself that I could improve on my results. Men have criticised irrigation, drainage and everything else that is good. They have even condemned the pathology of pelvic troubles. Way back in the history of abdominal surgery several authors allude to vaginal ovariectomies; two cases were saved by irrigation, two by drainage. Some insist on long incisions, and say there is no more risk of hernia from a four-inch than from a two-inch incision. I do not agree to this. Unless great care is taken, as in suppurating dermoids, pus and blood will flow if sponges are not used.

One of the gentlemen has called attention to the risk of rupture of such accumulations, or rather the absence of risk. Take, for example, multiple ovarian abscess. I know of no method that will avoid rupture in the enucleation. In the enucleation of a suppurating ovary the size of an egg or orange, the sac is usually ruptured. It cannot be helped, for it is next to impossible not to break this sac. The sac or pelvic accumulations do not leave their situations, even when the position is that of Trendelenburg. In an operation I had to-day for appendicitis, I had to shell out a diseased ovary, cæcum and appendix. To-morrow I shall have the same trouble. All diseased tubes and ovaries seek a lower level. I do condemn a long incision in the elevated hip position. I have seen assistants tug at retractors till nothing but harm could result. The long incision gives needless exposure and manipulation and admits air. I speak with an experience of fifteen hundred operations.

Dr. Krug has criticised our modern

methods. I cannot for a moment put away water: water must be used in abundance as long as my mortality is below five per cent. I will welcome any improvement when my mortality reaches nine or ten per cent. The horizontal position cannot be condemned. Enucleation and evacuation must be made, no matter in what position. I am willing to welcome anything that will minimize time, incision and exposure.

DR. KRUG (closing) :

I have very little to say, as, with one exception, all the speakers were in favor of the posture.

Dr. Price has criticised everything and everybody except himself and the points I tried to make in my paper. I have laid stress on the importance of a sensitive touch and a well-trained hand; but I must still insist on the great advantage of working under the *combined* guidance of the *eye and* hand, notwithstanding his remarks.

Owing to Trendelenburg's posture, I have not ruptured so many pus sacs lately as before in the horizontal posture, although this accident could not always be avoided. Still, if possessed of any degree of dexterity, the operator can guard against the fluid contaminating the abdominal viscera. On the contrary, it is by far easier to do so in the elevated than in the horizontal position. I had no difficulty in safely disposing of the pus, even in most complicated cases.

Dr. Price speaks of men with limited experience, and mentions the large number of his operations. Now, sir, since he has never tried Trendelenburg's posture, and as I have done nearly three hundred sections in that way, while being fully familiar with the old method, I must claim the experience on my side.

DISCUSSION.

INVERSION OF THE UTERUS. A COMPOUND PRESENTATION. SPONTANEOUS REPOSITION IN PREGNANCY OF A UTERUS FOR MANY YEARS FIXED IN RETROFLEXION. INTRAPERITONEAL ABSCESS FROM GONORRHEA. ENORMOUS CYST OF THE LABIUM. REMOVAL OF INFECTED FIBROIDS AFTER DELIVERY. TUBERCULOUS PERITONITIS, WITH PYOSALPINX. BY DR. B. C. HIRST. (See page 600).

DR. CHARLES P. NOBLE :

I recently had the pleasure of seeing a case of inverted uterus in consultation with Dr. Thomas Shriner. The inversion was due, probably, to traction on the cord, and was reduced by pressure on the mass—the cervix, corpus, and finally the fundus ascending. The patient, a young multipara, was delivered by a homœopathist, who thought he had an adherent placenta, to detach which he made persistent manual efforts. Becoming exhausted, and the patient losing much blood, a messenger was despatched for assistance, and Dr. Shriner was summoned. As the conditions were most urgent, Dr. Shriner thought—and very rapidly too—it his duty to relieve the patient, even though he might be regarded as consulting with an irregular. On examination the uterus was found inverted, and quite ragged and lacerated from the ignorant efforts of the doctor. The uterus was reduced without difficulty, when Dr. Shriner retired.

On the seventh day tetanus developed, when Dr. Shriner was asked to take charge of the case. The paroxysms were not very violent. The lochia was scanty and foul smelling, but there were no evidences of constitutional sepsis. I saw the patient at this time. She was treated with irrigations and iodoform suppositories locally, and with chloral, morphia and the bromides, to combat the tetanic spasms. Death occurred on the tenth day.

Puerperal tetanus is a very rare disease, and is practically unknown in temperate and cold climates. Probably this case is unique in the northern part of the United States.

In regard to abscess from gonorrhœa. I had a well-marked case where the abscess was in the peritonæum. The patient consulted me for a vaginal cyst back of the cervix, and a laceration of the cervix, for which I operated. The husband contracted gonorrhœa during the wife's convalescence from childbirth and later infected her. The history is clear from the husband's confession. The gonorrhœal poison went up to the tubes in a few days and produced peritonitis. The patient's condition grew rapidly worse, so that I was obliged to operate. I found both tubes diseased and an abscess, which lay to the outer side of the sigmoid, extending into the pelvis. The clinical evidence of gonorrhœal intraperitonæal abscess is very strong, but it has been denied by the bacteriologists, though the recent re-

searches of Wertheim are in strict accord with the clinical evidence. The case is so typical that I have reported it.

DR. DAVIS :

I desire to emphasize what Dr. Hirst has said in regard to fibroids. For about ten days after curetting a uterus for fibroids, the patient did well, but later an abscess developed and extended to the tubes. The patient was operated upon, but did not stand the operation. Peroxide of hydrogen had been used prior to the cutting.

DR. MONTGOMERY :

The two subjects are pregnant with interest. How we should treat septic cases following labor is very important. We should arrest the disease while it is still in the organ itself. The question of curetting the uterus is one that has been discussed here before. When the disease has extended to the broad ligament, the wisest procedure is to open the abdomen and drain. I have seen several cases with satisfactory recovery occurring after abortion and also after full term. In one case the abscess involved the tube, and extended to the broad ligament. The broad ligament and one side of the uterus was removed and the patient recovered.

In the second case referred to, *i. e.*, the removal of a fibroid tumor, the treatment of the stump is one of anxiety and difficulty when fixed at the lower angle of the wound ; it results in slow convalescence, as all healing is by secondary processes. They are often followed by secondary troubles, annoying the life of the woman. The stump is of no special importance, and is best removed. Extirpation of the uterus was first seen by me in Dr. Davis' case, and I think it is a better plan than treating the stump extra-peritonæally. I think it would have been better to close up the vagina and drain from above, as we had a large pus tube in addition. Unpleasant sequelæ will lead us to complete extirpation.

DR. J. PRICE :

The choice of operation in these cases is a puzzling one. The doubtful cases may yield to salines and drainage, and thus settle the question of operative interference.

Puerperal peritonitis generally follows dirty midwifery or previous mischief of some sort.

In the case of appendicitis to-day, the tube was full of pus, due to traumatism in labor. Puerperal fever is not puerperal fever as we were taught. It often follows injury to dermoids and pre-existing pelvic troubles. I recall a case, where five years before labor a case of dermoid was diagnosed. I advised operation. It was declined. Pregnancy and labor came and puerperal fever followed. The dermoid was suppurating, and the condition was that of puerperal peritonitis.

In regard to the advantages of Trendelenburg's position in these cases, it is not necessary to elevate to inspect, as the moment the abdomen is opened you see the viscera. It must be drained. It is curious how rapidly these cases get well if the drainage-tube remains wet. If it is dry for twenty-four hours the patient dies. Peritonitis follows criminal abortion, dirty instruments, etc. In several cases, where the coroner was summoned, and he summoned me, the patients got well after section, irrigation and drainage. A number of Western operators have reported successes. There is nothing like several pitchers of water for purulent peritonitis. Section, irrigation and drainage are necessary. Dr. Annandale told me that his old chief in Edinburgh said to him, "Put that man with purulent peritonitis in the bath-tub and wash out his abdomen." It was done, but I do not remember with what result."

To open the abdomen, open just large enough to admit two fingers and the irrigator, and you can irrigate from kidney to kidney, and from diaphragm to pelvis. Make a tri-valve speculum out of your two fingers, and shift the nozzle of the irrigator. It does not matter how much water you leave, it will act as a transfusion. Bantock says in reopening for peritonitis the patients have all died, but they were moribund before operating. In conclusion, in regard to the hysterectomy, extirpation is an ideal hysterectomy, but the result is not so good. Three in Cincinnati with a death, three in New York with a death, and three in Philadelphia with one death. With the extraperitoneal stump, Keith had thirty-eight with three deaths. I had forty-three without a death. I have done two complete extirpations without a death. In the first one I opened the retro-peritoneal pouch, made a chain suture from this to the bladder, from the left and right. You must do it quickly. In the second case I passed

the large hysterectomy forceps and locked them quickly. Both patients got well. I would not recommend the forceps, but would recommend the chain suture. When the cases are all recorded we will know more about intestinal surgery than we do now.

The lower method of drainage can be practiced without leaving the vaginal vault open. I do not see why, with a healthy fibroid, by complete extirpation, they should not do well without drainage. We can leave as many as one-half dozen healthy pedicles without danger.

IRRIGATION OF THE PERITONEAL CAVITY
IN PUERPERAL SEPSIS: COMPLETE RE-
MOVAL OF THE UTERUS FOR MULTIPLE
FIBROMATA. BY DR. EDWARD P. DAVIS.
(See page 604.)

DISCUSSION.

DR. NOBLE:

The question of the treatment of puerperal peritonitis is a very broad one, involving as it does, the treatment of puerperal sepsis.

It seems to me that the question, whether we shall operate by abdominal section for puerperal peritonitis cannot be answered yes or no. It depends entirely on the conditions present. Certain classes of cases *must* be sharply differentiated.

Many cases are on record in which puerperal peritonitis was due to the injury during labor of ovarian or other pelvic tumors. In such cases many operations have been done, and the injured, inflamed or suppurating tumor removed, with very good results.

Unquestionably in this class of cases, section should be made promptly, the tumor removed and irrigation and drainage employed. Both logic and experience point out this as the proper treatment.

At times puerperal peritonitis is due to the injury or rupture of tubal cysts—pyo—hydro—or haemato-salpinx. The same practice unquestionably is indicated, but so far the operation has not been done, or not successfully. But these cases are essentially different from cases of puerperal peritonitis occurring in women who were free from disease of the uterine appendages prior to labor. In the latter class infection has entered through the birth canal. Cases of puerperal peritonitis, arising in this manner differ very widely—the differences depending on the nature of the

septic inflammatory process in the pelvis. In some, peritonitis develops early, and there is but little involvement of the uterus itself or of the broad ligaments. In other cases the uterus is extensively invaded, and in others the broad ligaments are the seat of puerperal septic cellulitis.

These facts explain the great fatality of puerperal peritonitis, and also the uniformly fatal result of abdominal sections for spreading—so-called general—septic peritonitis, *when done during the first week*. So far, every such operation has been followed by death. The reason these patients die is that even though the peritonæum be put in a favorable condition for recovery by irrigation and drainage, that the septic uterus and broad ligaments are sufficiently diseased to produce death.

Many operations have been reported for puerperal peritonitis, done at a later period, with a successful result. But in all these cases the inflammation had become *localized*. It seems to me that progress in the future lies in preventing spreading puerperal peritonitis rather than in curing it by surgery. Certainly at the present time surgery offers only death. I believe that sound treatment consists in supporting the patient and assisting nature in localizing the septic inflammatory process; on this lies the only hope of cure. Perhaps in the future very early operation, with removal of the uterus and its appendages, may improve the results, but this seems very doubtful. In this connection I shall refer to the case of Dr. Lapthan Smith, which has been widely quoted in the medical press. Dr. Smith diagnosed puerperal sepsis with peritonitis. Treatment addressed to the vagina and uterus not availing, he did an abdominal section and did *not* find peritonitis; so he amputated the septic uterus. This patient recovered, but not from peritonitis.

I believe that first we should be more careful of our sepsis in obstetric practice, to prevent infection; that, second, if sepsis develops we should promptly irrigate the birth canal, and introduce an iodoform pencil into the uterus, to cut short the process, and in this way prevent peritonitis. If this is done early and thoroughly even the curette is rarely necessary.

DR. JOHN S. MILLER :

I consider supra-vaginal hysterectomy as

one of the most difficult and tedious operations in surgery, and I always feel greatly relieved when through with the work and the patient is off the table. Ordinarily, it takes from one to one and a half hours to do this operation. Any method which would shorten the time would certainly be welcome. The method of tying off the broad ligaments certainly saves much precious time. Why not primarily secure the broad ligaments with clamps, through the vagina, as in vaginal hysterectomy, then perform cœliotomy and divide the broad ligaments between the clamps and the uterus? In this manner the entire uterus could be rapidly removed. Of course, this procedure would only be applicable in cases where the tumor is not excessively large.

DR. GOODELL :

In reference to complete extirpation for fibroid tumor, in my case I closed up the vaginal wound wholly by a continuous suture of catgut. This excluded from the abdominal cavity every ligature except the two upper ones, and these as well as the others were of catgut. The patient recovered very rapidly, and was anxious to get out of bed in a week. To avoid injury to the bladder, to which Dr. Davis refers, I first define its position in the tumor by distending it with water, then cut above its insertion and strip it off.

Dr. Miller's suggestion to clamp from a vaginal incision the broad ligaments attached to a fibroid tumor could not possibly be carried out in most of these cases, because these ligaments are too greatly increased in size and in breadth to be controlled by a single clamp on each side. But the combined methods of vaginal and abdominal incision would undoubtedly facilitate very much some cases of complete extirpation.

DR. DORLAND :

I was pleased to hear Dr. Goodell mention the combination of the vaginal with the abdominal incision in complete extirpation of the uterus. I regret very much that Dr. Baer was unable to be present this evening to express his views upon the subject, as I know he would have done had he been here. It has been my pleasure, however, to have assisted him recently in a number of hysterectomies, performed for various reasons, in which he has employed the combined method

with success. Where there is reason to believe that the uterus is low down in the pelvis, or bound down by adhesions, and, therefore, difficult of access. I believe its removal will be facilitated by making a primary incision through the vagina.

DR. M. PRICE :

In regard to Dr. Davis' paper, it is our duty to treat all cases of puerperal sepsis, with symptoms of peritonæal involvement, by irrigation and drainage. I have seen a case where even the parotids were involved, the abdomen full of pus, from the pelvis to the diaphragm; section, irrigation and drainage, with recovery. Everything must be washed out. In the case of the colored woman reported a year ago, with the abdomen full of pus, she was thoroughly washed out and a drainage tube inserted, and with the most unfavorable surroundings, got well.

In all cases of septic peritonitis, where there is peritonæal irritation, if they are thoroughly washed out they all get well. If the operator waits for a chill, and fatal sepsis, and the coroner, his cases will not get well.

One other point: in cases of childbed, it is meddlesome midwifery to continually douche the patient for weeks after labor. Nature takes care of her subjects without injections of irritating antiseptics; they are often retained and do mischief. Once is sufficient, and often too much.

DR. W. R. PRYOR, of New York :

Mr. President: I believe in irrigation in cases of puerperal fever, but of the uterus. When there is free pus in the abdominal cavity, of course, it should be evacuated. But these cases of puerperal fever, so-called, are really cases of profound septic metritis, lymphangitis and peritonitis. To do a section in such cases is irrational, unless the uterus be removed. We might just as reasonably remove a dead child from a rotten uterus, leaving the latter, as remove diseased tubes and ovaries or isolated foci of pus and leave the puerperal septic uterus. My treatment of these cases is by the curette and gauze packing, if continuous irrigation of the organ for twelve hours has failed to subdue the symptoms.

As to this posture, which bears Trendelenburg's name, I believe total extirpation of the fibroid uterus to be impossible without it.

The operation is without the high rate of mortality attributed to it by Dr. Price. For instance, Polk has done ten operations without a death, and others of us have had equally good results in a less number of cases. Surely it is the ideal operation for fibroids. I look upon the Trendelenburg posture as occupying to uterine fibroids what Sims' posture did to vesico-vaginal fistula. In other words, it makes the operation possible. Any other way of treating fibroids must be looked upon as incomplete. I thank you, sir, for the privilege of addressing the Society.

DR. BALDY :

I do not think that such cases as Dr. Davis' should be operated upon. There was nothing to remove, no pathological condition, and the patient would have gotten along just as well without the mere irrigation. I believe, with Drs. Noble and Pryor, it is better to use prophylaxis. In the beginning the infection is in the uterus and should be attacked there.

In regard to fibroids, that operation which gives the most recoveries is what you want, no matter how ideal any other method may be. The extraperitonæal method shows the best record. A larger per cent. of extirpation cases die. The extraperitonæal method is, therefore, the best. I have had twenty cases, with two deaths; one should not have occurred. It is the disadvantage of the extirpation method that you open the vagina, the most septic canal in the body. One hour ought to be the greatest length of time consumed in doing the extraperitonæal operation. I have yet to see a hernia start from the stump. Convalescence is slower with the stump, it is true, but it is better to get well slowly than not to get well at all.

DR. HIRST :

I would like to join with Dr. Noble in saying that there is no case of recovery on record of diffuse peritonæal suppuration after childbirth.

DR. J. PRICE :

I have done such sections and have exhibited the specimens here in the society, and they are on record, as many other authentic cases are on record. Some of the cases were dangerous to the last degree.

DR. HIRST :

Dr. Price's cases were not of this character

but were localized. We are not talking about a dirty uterus, but about diffuse purulent peritonitis.

DR. NOBLE :

The cases which I have reference to are those which occur in the first week after labor. Dr. Price does not speak of such a case.

In regard to pus in the broad ligaments, I have reported recoveries, also Drs. Parrish and Longaker.

DR. KRUG :

As to hysterectomy, I am pleased that so many have spoken on the side of total extirpation *versus* leaving a stump. It is *the ideal* operation and will be generally adopted in the near future. Dr. Baldy has said there is a mortality of fifty per cent. in extirpation cases. He is mistaken in this. I must remind him that Chrobak has reported seventeen cases without a death; Polk ten cases without a death. In my first series, reported last December, there was one death, which was due to an accident and cannot be charged against the method; since then I have done the operation a number of times without a death or unfavorable symptom. This shows that the mortality is at least as low as with the extraperitonæal method, and it will be still better, when we have reached larger figures.

Dr. Price spoke of Trendelenburg's posture as being too high for the removal of fibroids.

Why, all he has to do is to have the table lower, or else stand on a footstool or box.

DR. BALDY :

When we come to count our successes and failures in any operation, we cannot make exceptions. The patients died after that particular operation, whether it was through bad surgery or other extraneous causes, and that is all there is of it. In my two fatal cases one was due to bad surgery on my part, and one was due to the previous use of electricity. The extraperitonæal men have by far the best of it. I have never seen a trace of infection of the broad ligament. As to diffuse purulent peritonitis being cured by operation, I am still unconvinced on that subject.

DR. DAVIS :

Much of my paper has not been discussed : no case of purulent diffuse peritonitis has recovered. Previous to this time we have been cleaning the uterine cavity with gauze, curlette, irrigation, etc. The purpose of this paper was to bring up one point, viz., after the curetting, irrigating, etc., if there are symptoms of general infection forty-eight hours after labor, what was to be done? I have not received much light, and none of us will get much, till we know more of the pathology of these cases.

ELLISTON J. MORRIS, M.D.,

Secretary.

PLATE IV.



JULIUS D., 16 YEARS, 29 KILOS.



JULIUS D., 16 YEARS, 29 KILOS.

PLATE III.



CARL D., 18 YEARS, $26\frac{1}{2}$ KILOS.



CARL D., 18 YEARS.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

CONDUCTED BY RICHARD C. NORRIS, M.D.

ORIGINAL COMMUNICATIONS.

Two Cases of the Juvenile Form of "Atrophia Muscularë" (Erb).

BY A. V. VON SOUZA, M.D.

Translated by Charles Greene Cumston, B. M. S. (Geneva); Student Associate of the Royal Academy of Medicine in Ireland; Assistant at the Butini Hospital, Geneva, Switzerland.

[With five photographs.]

THE doctrine of progressive muscular atrophy is not at all settled, and the former discussions as to its etiology and pathology are again being brought up by the partisans of the neuropathic theory and those who uphold the theory of "primary myopathy." When Aran (1), Duchenne (2), and Curveilhier (3), in about the year 1850, wrote upon and described progressive muscular atrophy, they pronounced it to be an independent disease, but they disagreed as to its origin. Aran and Duchenne considered the seat of the disease as being in the muscles, and which, little by little, invaded the nerves of the mus-

cles affected, and so might even attain their roots and spinal cord. On the other hand, Curveilhier, basing his theory on his personal anatomo-pathological searches, took up a position entirely opposed to the above mentioned writers, by upholding that it was the spinal cord that was the first diseased.

In Germany, the principal representative of modern times of the myopathic theory, who above all should be mentioned, is Friedberg (4). In the few years following the writings of Aran, Duchenne and Curveilhier, Remak, Schullvogt (5) and Jaccoud (6) put forth a third theory, declaring

that progressive muscular atrophy was an entirely trophic neurosis and a specific disease of the sympathicus. These three theories as to the origin of this disease were about equally divided among the profession until Charcot (7) demonstrated his theory, which to-day is accepted as probably correct by nearly every one. Charcot showed that the large ganglion cells of the anterior horns of gray matter of the spinal cord should be considered as being the trophic centre of the voluntary muscles. Later on Friedrich (8) arose as an eager adversary against this theory, for in his long and well-written memoir on progressive muscular atrophy he states that the myopathic theory is the only right one, and considers the changes in the peripheral nerves and spinal cord as secondary symptoms, and expresses himself concerning the development of the disease as follows: "Progressive muscular atrophy commences primarily in the muscular tissue as an active inflammatory process, which in its histological condition corresponds exactly with the other forms of chronic myositis. Sooner or later the inflammatory irritation which exists in the muscular tissue may invade the intra-muscular nerve branches, thus producing a chronic neuritis or perineuritis, capable of extending by a centripetal course into the intra-muscular motor branches in the first place, then on the mixed nerve trunks and the plexus up to the nerve roots and even the spinal cord itself, or it may stop at one of the above-mentioned parts." Although the greater number of the representatives of the theory uphold what has been said in favor of Charcot's views and opposed to those of Friedrich, the

cases published by Lichtheim (9), in which, in spite of an extensive and severe muscular atrophy, no alterations could be found, either in the spinal cord or the peripheral nerves, soon showed that the neuropathic theory could in no way claim an absolute value. Without making so much of Charcot's theory—which is recognized by a great number of the profession as proved—one should rather admit what Leyden put forth some time before, namely, that there is the possibility of certain forms of this disease having other explanations. In fact, it is to be desired that the explanation of the classified pathological tables of these diseases, as arranged by Leyden (10) and intended to enlighten the subject, should not pass unnoticed.

In Nov., 1881, Friedrich Schultz (11), while giving a short address on a case before the Society of Physicians at Heidelberg, made the remark that in his case a primary myopathy should be admitted, for, he says, "there never existed a single symptom of nervous disease." In a long work on muscular atrophy, combined with hypertrophy, which was published in 1886, Schultz again took up this case and expressly states that the reflexes, especially those of the pupils and tendons, were normal. It is consequently Erb, who, after having decided the question in his article on the juvenile form of muscular atrophy, which was published in the *Deutsches Archiv für klinische Medizin*, in 1884, was the first to propose that all the different forms of uniformly localized muscular atrophy, including "pseudo-hypertrophy" and "hereditary atrophy," should be classed under the name of "dystrophia muscularis progressiva,"

of which his "juvenile form" and "pseudo-hypertrophy" were the subdivisions. It is above all to Erb that is due the great merit for having tried to distinguish clinically two different forms of progressive muscular atrophy, viz., the *spinal form* (amyotrophia spinalis progressiva, Aran and Duchenne), and *dystrophia muscularis progressiva*, probably myopathic.

Erb pronounced the "fecit" of his great work in a supplement, added at the end, by the following passages that I here produce textually: "There is a particular form of muscular disease, which consists partly in hypertrophy, combined with atrophy, of the muscular fibres (this atrophy may follow the hypertrophy, or it may appear at the same time), partly in hyperpolasy of the interstitial connective tissue, and which, after a time, is completed by a lipomatosis, more or less extensive. At the present state of our knowledge it is not certain whether the alterations of the muscular fibre or the connective tissue are primary or secondary. The peripheral nervous system and spinal cord do not generally show any modifications in their structure. It is a chronic disease, which slowly progresses, while each muscle attacked either shows great atrophy, true hypertrophy, or pseudo-hypertrophy (lipomatosis)."

The disease is distinguished clinically by a characteristic local muscular affection (in the upper half of the body it always attacks the pectorales, cucullares, latissimi and other muscles of the scapula; the flexor muscles of the arm, including the supinator longus, the triceps, etc., without however attacking the forearm or the hand; in the lower half of the body,

the lower half of the lumbar extensors, a part of the abdominal muscles, then those of the thigh, and finally the muscles of the posterior part of the leg are attacked, but the latter only partially) on account of the loss of fibrillary movement and of the E. and R. reaction and other troubles, nervous or otherwise. Sometimes the disease first invades the superior half of the body, while at others the inferior, and the selection seems to be in some way relative to the age of the subject. The greater part of the cases of this disease present symptoms of pseudo-hypertrophy before the progressive muscular atrophy appears, which is during childhood or adolescence (a certain time before puberty) and presents the juvenile form of progressive muscular atrophy, which I was the first to describe, often reappearing after several generations in families in which it had already existed. If the disease appears in babyhood, and if a more or less considerable lipomatosis does not complicate it, it is then what is called in the real sense of the expression "hereditary muscular atrophy;" but if it is complicated by a precocious and intense lipomatosis (especially of the lower extremities) the so-called pseudo-hypertrophy is present. But all these forms are identical and only represent the different ways of manifestation and development and the different degrees of intensity of the same disease. Consequently, according to our present knowledge, it should be separated from the spinal form of "progressive muscular atrophy."

In the Eighth Congress of Neurologists of Southwest Germany, held in Freiburg, on July 9th and 10th, 1888, Erb put forth the following opinion,

based on numerous cases observed by himself and others : He said that the so-called infantile progressive muscular atrophy (including the face), described for the first time by Duchenne, and which theory was defended on several occasions by Landouzy and Dejerine (13), belonged to dystrophia muscularis progressiva, so that under this collective name, which he was the first to propose, could be actually included the four affections which had been written on many times : (1) Juvenile muscular atrophy (Erb). (2) Hereditary muscular atrophy (Leynen), but on the existence of which the speaker was in doubt, because all forms could be hereditary—the occasion being offered. (3) Pseudo-hypertrophy of childhood, and, lastly, (4) the infantile atrophy of Duchenne.

This opinion is supported and proved by the considerable number of cases which unite all these forms in the clinical as well as anatomo-pathological point of view, and it is this last that Erb has sufficiently demonstrated by numerous microscopical examinations. Erb also pointed out the most varied intermediate forms which exist among the different groups of the disease and classed them as follows : (*a*) Cases of the juvenile form, including the face ; (*b*) Pseudo-hypertrophy, also including the face ; (*c*) Infantile forms, having partly the juvenile, partly the pseudo-hypertrophic type ; (*d*) Pseudo-hypertrophies, appearing later in the juvenile form, etc. Now, during these last few years, so many cases presenting different forms of dystrophia muscularis progressiva have been published by much-esteemed and learned authorities, that it seems nearly superfluous for me to increase the already

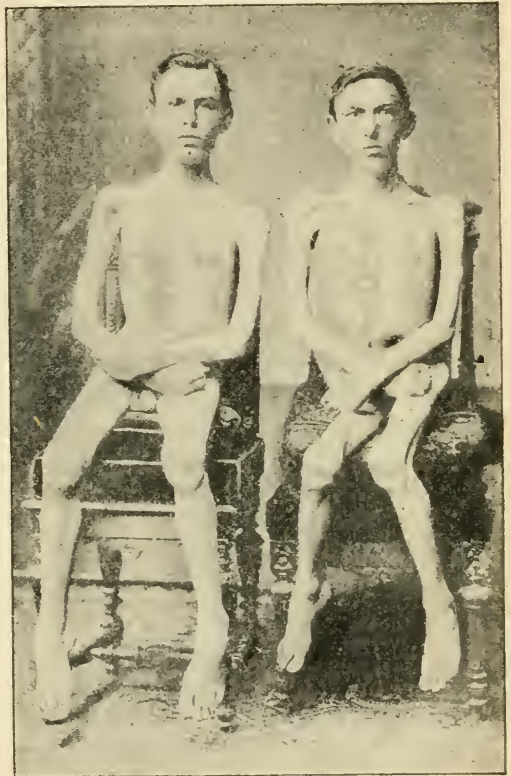
considerable literature of the subject by this short supplement. However, by publishing these two cases, I trust that, on account of the great number and varied forms of dystrophia muscularis progressiva already known at the present time, they may present some interest, by the relatively long period that they were under observation. My cases were two brothers, aged respectively 18 and 16 years, and my notes of them were taken in Dr. Dähnhardt's service, in the clinic for nervous diseases at Kiel, and are, according to my thinking, as regards the development and progress of the affection, two nearly perfect pictures of juvenile muscular atrophy, as described for the first time by Erb, in 1884, in his splendid treatise on the subject. I took the opportunity of photographing the patients several times, and I hope that the photographs that I produced from the negatives and which are joined to this article may represent a picture of the disease to the eye of the reader with a sufficient exactness. I now arrive at the description and history of my patients.

Julius D., aged 16, is the second son of a tailor of Rensburg, at this time living at Kiel. The patient has a brother, Carl, æt. 18, having also the same disease, and one other brother and three sisters. These six children have had measles, whooping-cough, roseola and scarlet-fever, and have passed through them without being affected by any remaining complication. The youngest brother, æt. 8, has marked signs of rachitis, and his speech is difficult and indistinct ; otherwise he and the three younger children are perfectly well and healthy. The mother suffers from a cough, from time to time from head.

aches of a very severe type, and which are especially marked over the forehead and sometimes accompanied by vomiting. As regards the father, no member of his family has shown signs of any nervous disease. The grandparents, as well as all the other paternal and maternal relations, have lived to the age of 80 and over; the paternal grandmother is still living at the age of 91, and is vigorous. The patient in question walked at eleven months, and presented nothing abnormal until his sixth year, and from this time the pains increased little by little, and were especially marked when he tried to stand up, he being seated or lying down. To be able to stand up the patient supported himself by placing his hands first on his knees, then on the thigh and at last on the hip. After his sixth year walking was no longer possible, except by bending the trunk backwards; consequently the patient was easily tired by walking and he frequently fell down from feebleness. He never had headaches nor vomiting. There is found a peculiar feebleness in the arms which was not noticed by the parents, but it appears that the school-master remarked at this epoch that the patient frequently had jerky movements in both hands. In Feb., 1885, the patient and his brother, Carl, came to the Royal Medical Clinic, at Kiel, where they were treated until May 5, 1885, by Professor Quineke. The following status was kindly given me by the Professor:

"Julius is rather small, quite thin, panniculus slightly developed, the

mucous membranes pale; complains of being easily tired by walking, and has great difficulty to get up on his feet from a sitting or lying down position. The internal organs are normal. The hepatic-pulmonary limit is over the superior border of the sixth rib; resonance of the lungs and the vesicular bruit normal. The



JULIUS AND CARL D.

heart occupies its normal position and the sounds are normal. Pulse is normally frequent and moderately strong. The liver reaches costal curve on the mammary line. Spleen not increased in volume. Tongue not coated; appetite good; stools regular; no albumin in the urine; temperature normal. When the patient stands up

the belly falls forward; the pelvis is strongly inclined forward and a considerable forward lordosis is found to exist in the lumbar region. The shoulder-blades recede from the thorax, so much so that two fingers may be placed in the space between; the arms are hanging. But what is especially noted is the bad development of the muscles of the thorax and upper extremities and their leanness (the ribs, spinous processes, scapulæ with their prominences, projecting under the skin), which greatly contrasts with the great development of the musculature of the calves of the legs. The thighs are thinner than the legs, not so much so as the upper extremities; the muscles of the calves have a rubber-like consistence, similar to that of a lipoma and more solid than in the other parts of the body, but which is softer when contracted. By contraction the muscles of the leg have not their distinct limits, while their heads do not hardly project at all; the calves are rounder than usual in boys of his age. During walking the prominence of the belly and the lordosis of the lumbar region are still more pronounced; the legs are slowly raised and higher than normally, because the soles of the feet are pendant; the upper part of the body undergoes a lateral oscillation and twisting. In order to get up from a chair or the floor, or to pick up an object, the patient is obliged to make a great effort and fixes the trunk on the lower extremities. In order to get up from the floor the patient first raises the pelvis by supporting himself on his four members on the floor, this done he raises the upper part of the body by supporting himself with both hands, one after the other, first on the

knee, then on the thigh, and lastly on the hip."

Efficiency of some isolated muscles and some groups of muscles: By moving an upper extremity the scapulæ depart from the thorax like wings; their angles, however, in raising the arm, take a more outward direction. In the region of the *musculus pectoralis major* the distinct fibrillary movements are appreciable on both sides. Both *deltoïds* contract. Both *biceps humeri* appear to be rather small, and a slight force is sufficient to resist the contraction. Both *triceps*, which are considerably better as to development, are much stronger. It is for this reason that the patient raises, first the arm by the muscles of the shoulder, then turns the extensor side of the member towards the object to be grasped, and grasps it by contracting the *triceps*, when the object is held high.

"Flexion and extension of the hand and fingers, pronation and supination, separating the fingers apart are all performed well. The pressure produced by the hand and fingers is moderately strong. The prominences of the thumb and little finger are well developed, and there is no flattening of the interosseous spaces.

"The abdominal muscles only act a little, as is the case with the lumbar muscles. The right *ileo-psoas* muscle is feeble, the left still more so. Extension of the thigh is feeble, adduction and abduction are feeble, the latter is slightly stronger. The extensors of the leg react quite well; abduction of the foot is slightly better than adduction. The feet are in extension and the dorsal flexion is executed with difficulty by the patient, and a greater force is necessary to

put the foot passively into the talipes calcaneus position. The plantar flexion is produced more strongly by the patient, abduction of the foot is stronger than adduction. Evacuation of the urine and fæces is normal. The sensibility is in no way modified, either qualitatively or quantitatively.

"*The reflexes.*—The cremaster and abdominal reflexes exist; the plantar reflex is feeble. The knee jerk is wanting on both sides."

The treatment of the patient during his stay at the hospital consisted in a daily faradization of about ten minutes' duration, of all the muscles of the body, and a fortifying diet. On May 7, 1885, the patient with his brother, Carl, left the clinic. He could then walk a little better, it is true; but it is stated that the general health was not improved.

After he was at home there was a considerable aggravation in the condition of the patient; in a very short time walking became absolutely impossible for both the patient and his brother, Carl, and soon after they could no longer stand on their feet. From the summer of 1885 both patients were obliged to remain either lying down or sitting. As the proper care was not to be had, the unfavorable conditions under which they were placed, on account of the poverty of their father, determined, it may be presumed, a more rapid progress of the disease than otherwise would have been under other circumstances. Since then, the patients have been shown during each term by Dr. Dähnhardt, in his clinic for nervous diseases, and on each occasion it was necessary to carry them in and undress them, as they were absolutely incapable of doing anything for them-

selves. I assisted regularly at these clinics, and I was thus able each time to convince myself of the state of the patients; but a detailed statement was not made at an earlier date on account of want of time. Now, during the months of July and August, 1888, Dr. Dähnhardt had the great kindness to help me in repeated and precise examinations of the patients for the present paper, so that I have published the results obtained under his supervision.

The condition of Julius D. is as follows: On examination of the internal organs they were found to be absolutely normal, as they were in 1885, when examined at the medical clinic. The urine is still normal in quality and quantity; the stools are regular; the temperature normal. The pulse beats regularly, but is slightly strong. The general condition is good. The spinal column in the lumbar region appears greatly curved to the left. In the region of the pectoral and intercostal muscles—cold and every foreign influence being carefully avoided—it was noticed, after repeated examinations, that there existed distinct fibrillary contractions. The muscles of the face and neck appear to be normal. On inspection the muscles of the back do not appear to be much altered. The scapulæ are slightly projecting on both sides, and recede like the wings of a bird. The angles of the scapulæ slightly project on both sides. The superior and inferior muscles of both scapulæ are markedly atrophied. The muscles of the arms are greatly diminished in size; the biceps can only be seen like a thin cord, and only a trace of the triceps remains. The *caput longum* of the last-named muscle is

to be felt on both sides, especially on the left, like a hard, pasty mass, and may be distinctly seen in the shape of a round swelling, of about two fingers' breadth. The muscles of the forearm are all equally atrophied, and no one muscle appears to be affected more than others. The muscles of the hands are well preserved (thenar and hypothenar well developed, and the interosseous spaces are not flattened). The muscles of the thighs are considerably atrophied and correspond to the arms; that is to say, the atrophy is more marked on the right than on the left side. The muscles of the legs and feet are well preserved.

Reflexes.—A slight indication of the knee jerk exists on both sides. while the reflex produced by tickling the soles of the feet is absent on both sides. (The foot phenomenon is also absent on both sides.) The abdominal reflex is quite feeble, while the cremaster reflex is very marked on both sides.

CIRCUMFERENCE OF THE EXTREMITIES AND TRUNK OF JULIUS D.

UPPER EXTREMITIES.

	R. cm.	L. cm.
Immediately above the carpo-metacarpal articulation . . .	13	13
Middle of forearm. . . .	16	16½
Immediately over the lower part of epicondyle	17	18
Immediately over the upper part of epicondyle	15½	15½
Immediately over the middle of arm	14	14½

LOWER EXTREMITIES.

	R. cm.	L. cm.
Immediately over the malleoli . .	18	18½
Immediately over the calves of the legs	22	22
Immediately under the condyles . .	23	23

Immediately above the condyles . .	23	24
At the middle of the thigh	24	25
Circumference of thorax (mamillary line)	71	
Circumference during profound expiration	76	
Circumference above the umbilicus	68	

Examination of the patient with electricity gave the following results:

(a) *Examination with a current of induction with Du Bois-Raymond's apparatus.*—The thorax is very flat in front, it is true, but there still remains a part of the pectorales and rhomboïdes, which with the remains of the deltoïdei give a certain feeble contraction with a No. 7 current. The serratus anticus major and the obliquus abdominis, on both sides, also react feebly. The muscles of the arm, as I have already stated, are greatly reduced in size. The prominent belly of the triceps gives a distinctly pronounced contraction and extension with a No. 4 current. The biceps, reduced to the size of a cord, gives a slight contraction and flexion with No. 3 current; on the left the same result is obtained, but with a No. 2 current. Excited by No. 2 current, both medianus and ulnaris react well; the muscles of the hands react well with the same current, as they appear to be well preserved, but the production of force is only moderate. The muscles of the forearm are well preserved and do not show any considerable decrease in size. With current No. 3 the extensors and flexors of both sides react well, the left react, however, with more force than the right. The muscles of the thigh, corresponding to the arm, are considerably atrophied, and distinctly more so in the right than in the left, and this is also proved by the fact that the No. 2 current produces considerable con-

traction of the left thigh, especially in the quadriceps and vastus internus muscles, while on the right side a No. 4 current was used in order to produce the same degree of contraction. The other muscles of both thighs only give slight signs of contraction with a current stronger than No. 4. When the cruralis of either side is excited, only a slight contraction is produced by a strong current. The muscles of the legs are relatively well preserved. A manifest reaction in the peroneus appears when current No. 3 is employed; however, the contraction is stronger in the left than in the right leg. The muscles of the legs appear to be generally better preserved than those of the arms.

The contractions which exist in the older brother, Carl, are not to be found in Julius. The feet, excepting their position—their plantar surfaces being flexed—show nothing abnormal and react well to the current of induction.

(b) *Examinations made with the galvanic current.*—As regards the quality, in no region of the body is there found anything abnormal in the contractions, and the E. and R. does not exist. On account of the considerable atrophy of both pectorales, a stronger current is unable to produce a contraction, and with the same current over the deltoidei they are only made to slightly contract. Excitation of the radialis, medianus and ulnaris produces normal contractions of the forearm and hand each time that a moderately strong current is employed. The muscles of the hands directly excited give normal contractions. The reaction of the thigh, corresponding to the great decrease in size, is quantitatively greatly dimin-

ished on both sides. Indirect and direct excitation of the legs (peroneus, etc.) with moderately strong currents, give normal results, but in the left leg there is a distinct reaction with a milder current. With the same current applied over the feet, they are found to contract normally. The sensibility is nowhere found to be modified, either as to quality or quantity, and an examination with a pin gives a normal contraction. The club-foot of both feet, which has appeared and slowly progressed in the last two or three years, is produced by the predominance of the flexor over the extensor muscles. The patient, although more than two years younger than his brother Carl, is nevertheless larger; he weighs fifty-eight pounds, while Carl weighs fifty-three pounds. Walking and standing are absolutely impossible, however; the patient can sit up quite straight, a thing impossible for his brother to do. The muscles of the arm and thigh entirely refuse service to their owner, and lifting and flexing the arm and legs is no longer possible. However, by supporting himself with the forearm, the patient can produce, easily and well, pronation and supination of the hand as well as the other movements of both hands and fingers. He can still squeeze the hand with a certain force; he has a particularly good handwriting, and, like his brother, can perform certain manual work with great address and with little exertion. For example, they make artificial flowers with exceedingly good taste, which they sell. I now come to the description of the second case, and will allow myself the privilege to add some remarks on both patients at the end of this article.

CASE II.—Carl D., æt. 18, and brother of the first case. The patient walked in his first year. It was shortly after, the parents say, that they first remarked that the child had great difficulty to get up from the floor or a chair, and in order to do so he supported himself by placing his hands first on the knees and then on the thighs; then after this they noticed that his trunk was curved when he walked; the convexity was in front, the concavity in the back. These symptoms became more and more marked as time advanced. In the first years of his life the patient suffered from violent headaches, principally in the frontal region, and which usually radiated to the temples. Even with all their violence, these pains were rarely accompanied by vomiting; they appeared at no matter what hour of the day or night, and lasted sometimes several hours. During these attacks, the patient frequently had bright flashes before his eyes. His intelligence does not appear to have been troubled, for in 1885, at the age of 15, he was reputed as an excellent scholar at the public school that he had regularly frequented.

In 1887 the patient had, so his parents state, an inflammation of the lumbar vertebræ, and he was treated for twelve days at the Royal Surgical Clinic, by a plaster-of-Paris dressing. A description of this case is unfortunately not to be found on the records. In 1884 the patient could no longer get up by himself; he was helped to school, because he often fell down from fatigue; and in the autumn of the same year he was obliged to be taken to school in a carriage. On February 21, 1885, the patient and

his younger brother, Julius, entered the Royal Medical-Clinic. The status of the patient taken at this time is as follows:

“The patient is small and frail; the skin can be taken up in folds; the mucous membranes are pale. He complains of great feebleness in the legs and his utter impossibility to get up alone, frequent headaches, of very violent nature, but no vomiting. The internal organs show nothing abnormal. The hepato-pulmonary limit is situated on the upper border of the sixth rib; resonance of both lungs and vesicular bruit are normal. Heart in normal position; the heart-sounds are normal. Pulse normally frequent and moderately strong. The apex is in the mammary line. Spleen not increased in size. Tongue good; appetite good. Stools regular. No albumin in the urine. Temperature normal. The attitude of the body when the patient stands up is much like the patient's brother, excepting that the scapulæ, especially the left, recede more. The difference in the development of the muscles of the trunk, arms and thighs, a part of those of the legs, of the forearm, the hands and feet, is the same as in the patient's brother, Julius. However, the left calf is more developed than the right; the muscles of the calves are of a more normal consistence and their form is more easily seen when they are in contraction—more so in the left than in the right leg. The plantar flexion of the left foot is greater than the right. The attitude of the decubitus dorsal is exactly the same as in the other brother. The conditions of walking are also similar, excepting that the feet are thrown inward, and the patient is fatigued

after a few steps. It is impossible for the patient to get up from the floor or a chair. The force of the different muscles and groups of muscles is much the same as in his brother's case. To seize an object held up high, the patient executes the same movements as his brother, but in raising the arm the angles of the scapulæ are more projecting. The left ileo-psoas muscle is only slightly affected, while the right is not at all. Active dorsal flexion of the feet is no longer possible, and the passive is still more difficult than in the other brother. Evacuation of urine and fæces is normal. Sensibility is not modified. The cutaneous reflexes (cremaster and abdomen) are present, but the plantar reflex is feeble. The patellar reflex is wanting."

The treatment during his stay in the hospital consisted in the administration of iron (the tinct. ferri chlorati aether, x gtts. three times a day) with daily faradization for ten minutes of all the muscles of the body. May 7, 1885, this patient left the hospital, with his brother, in better condition. He could walk slightly better and the headaches had not reappeared during all this time, but it is stated that the general condition remained the same. When home again the patient soon lost all power of walking, and a few weeks after leaving the hospital he was no longer capable of standing on his feet. The arms also lost their strength.

The present status (July, 1888) of the patient is as follows: After examination the condition is similar to that in 1885. The urine is normal in quantity and quality. Stools are regular, the temperature normal. The general health of the patient is good.

The headaches and vomiting have not returned since his last stay in the hospital, and the patient is now free from pains of all kinds. A kyphoscoliosis is noticed, which has developed little by little in the last few years; the convexity is directed to the right and outward, consequently the thorax is greatly arched to the right, while the anterior thoracic wall is, on the contrary, very flat. The ribs are well marked under anterior thoracic walls, on account of the disappearance of the muscles. In all that remains of them, avoiding cold and other excitants, a distinct fibrillary movement is seen. The muscles of the face and neck are well preserved. Both deltoïdes have nearly completely disappeared; the scapulæ, especially the left, project greatly. The muscles of the arms have considerably decreased in size; the biceps is still to be seen like a cord and the triceps is in the same condition, on both sides. The caput longum of both triceps can be felt like a hard, pasty mass, and for a distance of about two fingers' breadth may be distinctly seen, like a ball, under the skin. There is a general atrophy of the muscles of the forearm, as in the other brother, and no one muscle seems to be more atrophied than the others. The muscles of the hand are as well preserved in the other case. The muscles of the back are fairly well preserved, those of the abdomen very well. Both thighs are flexed at an angle of 45° on the pelvis. The right leg is contracted at an angle of 90° ; while the left leg has only commenced to contract, all the muscles of the thigh have nearly completely disappeared; there still exists a trace of the flexors (quadriceps, etc.), conse-

quently the contraction is easily accounted for by the predominance of the flexors over the extensors. The insertions of the flexor tendons, for this reason, project under the skin. The muscles of the leg are preserved, as are those of the feet. The measurements of the extremities and trunk are as follows :

UPPER EXTREMITIES.		R.	L.
		cm.	cm.
Directly above the carpo-metacarpal joint		13	13
Middle of the forearm		15	15½
Directly under the epicondyles		17	17½
Directly above the epicondyles		14	14
Middle of the arm		13½	13½
LOWER EXTREMITIES.		R.	L.
		cm.	cm.
Directly above the malleoli		16	16
12 c. m. above the malleoli (calf)		16	19½
Directly under the condyles		20½	21
Directly over the condyles		22	22
12 c. m. above the condyles (mid-thigh)		21½	22
Circumference of the thorax (mammary line)		73	
Deepest expiration		76	
Circumference directly under the umbilicus		70½	

Examination with Electric Currents.—(a) Faradic current (Dubois-Raymond's apparatus.) With the No. 4 current a distinct reaction in the right hand and forearm is produced by direct and indirect excitation; the same result is obtained with the No. 3 current in left hand and forearm. Excitation of the three radials, with current No. 4½ produces a distinct contraction in both forearms. The right biceps: current No. 4 produces distinct contractions, while with current No. 5 flexion commences. The left biceps: with current No. 3 distinct contractions, flexions commence with current No. 4. In the remains of the pectorals, and what is left of all the other muscles

of the thorax, a slight contraction can be produced on both sides with the No. 7 current. A distinct contraction and slight extension appears on both sides when the carpatho-longum is in the triceps, but it requires current No. 7. The anterior muscles of the neck being preserved they react well when excited, but the muscles of the posterior region (cucullaris, etc.) only give a slight reaction. By exciting the obliqui abdominis, the serratus ant. major, the cucullaris and the rest of the muscles of the trunk give a contraction corresponding to their feeble development, with a current No. 7. Excitation with current No. 4 of the abductor hallucis, gives a distinct contraction on the left, and slightly less strong on the right. The tibialis: the left produces a contraction with current No. 4, while the right with current No. 5. The right peroneus produces contraction with current No. 4½, the left with current No. 3½. In all the muscles of the thighs their contraction is feeble and can only be produced by a very strong current applied over the points of excitation of the quadriceps femoris of each thigh; all the remaining muscles of the thighs do not, properly speaking, react at all. On account of the attitude of the right thigh, which is in adduction, the excitation of the inner surface is rendered difficult.

(b) *Examination with the galvanic current.*—Nowhere did we find any abnormal quality in the contractions, and we could not discover the E. and R. However, Ka. S. Z. > An. S. Z. resp. A. n. S. Z. It should be remarked that the greater excitability of the left peroneus with the current of induction is also the same with Ka. S. T. The sensibility in its different

forms is in no way altered, either as to quality or quantity. Examination with a pin shows nothing abnormal.

Reflexes.—The patellar reflex is completely abolished on both sides. The foot phenomena are wanting on both sides. The plantar reflex is strong and distinct, as is also the abdominal reflex; the cremaster reflex is greatly increased on both sides. The reflex of both pupils is perfectly normal. The patient, although two years older, is much smaller than his brother Julius. His weight is only fifty-two and one-half pounds, while that of his brother is fifty-eight pounds. The patient can neither walk nor stand; he cannot sit up without proper support. When sitting, the patient, like his brother, can move his legs back and forth; however, on the right the contraction is more considerable and hinders the movements of the limb, which is not so strong as in the left limb. The active dorsal and plantar flexions are easily executed in both feet. As with his brother, the muscles of the arms and thighs are absolutely lifeless and useless; lifting up and flexion of the arms, legs, etc., are absolutely impossible, but pronation and supination, and all the movements of the hands and fingers are easily and well executed. The patient can squeeze the hands quite strongly and has a particularly firm and handsome handwriting. He can execute different manual work with much talent and with little effort. The patient and his brother speak distinctly and quickly, and the voice is not altered; never has any alteration in phonation or articulation been noticed. What is most striking is the great development of the genital organs. The

father says that he has never known either of the patients to have had nocturnal pollutions, nor does he think they masturbate, etc., which may be excluded with security in both cases.

My information regarding these two cases is now finished, and I trust that what I have said may show clearly that we had to do with two cases corresponding in nearly all their symptoms to the clinical picture that Erb has given in his works on juvenile muscular atrophy. The development, the localization, the actual progress of the disease, as well as the age of the patients, and the duration of the disease, and, above all, the characteristic and nearly complete preservation of the muscles of the hands and feet in both patients, are sufficient to demonstrate, I believe, that our diagnosis is correct. The electrical tests prove that in both patients there was not decrease in the faradic or galvanic excitability corresponding to the degree of atrophy, and that, on the contrary, there does not exist an abnormal form of contraction, or a distinct sign of E. and R. According to the story of the parents and the clinical observations, it would appear that the affection commenced in both cases by a decrease in the size of the muscles of the shoulders and arms (scapulo-humeral type); besides this atrophy a moderate hypertrophy of the muscles of the calves probably existed in the first place, and which later on gave place to the atrophy that invaded the muscles of the thighs, thorax, arms, etc.

The frontal headaches complained of by Carl D. may perhaps be considered as inherited from his mother, nevertheless, I think that they should be

considered as resulting from the weakness and the loss of vital resistance of the patient, produced by a so very precocious atrophy. The headaches only lasted during the period that the patient went to school and ceased to occur after he left off his studies in his fifteenth year. The absence of the knee jerk in the same patient is sufficiently explained by the nearly complete disappearance on both sides of the quadriceps femoris muscle. What is most striking and interesting in both cases, because it differs from the descriptions that have been published up to the present time, are the fibrillary movements, remarked at a relatively early date, and which continued to become more and more pronounced as the atrophy and weakness advanced. I, however, mention this feature, for it occurred with certainty in both cases, and it is with express intention that I bring forward this symptom, not only for completing the description of the cases, but also because it is rare to observe these fibrillary movements in the disease which

I have treated in this paper or in those similar to it. In the literature at my disposition I have not been able to find the mention of a single case of dystrophia muscularis progressiva in which the fibrillary movements were not expressly stated as not existing. However, their existence or their non-existence does not appear to me to have a great influence in the diagnosis. The attention should be directed toward the characteristic symptoms which are so numerous, such as the *localization of the atrophy, the duration of the disease, age of the patient, the results given by an examination with electricity*, etc., and for that matter I think the profession is in accord with Erb when he says: "In all cases where there is absence of fibrillary contractions, especially when the patient is not exposed to the cold, and as this is usually the rule, I do not think that their appearance should complicate the diagnosis. The diagnosis is based on other and more important indications."

ABSTRACTS FROM CURRENT LITERATURE.

Glycerite of Borax in Infantile Diarrhœa.

G. MANSAL SIMPSON reports in the *Lancet*, April, 1892, his experience in the treatment of infantile diarrhœa, by means of glycerite of borax. Glycerin and borax, both possessing antiseptic and soothing properties, soon correct the fermentation of the contents of the alimentary canal, the

stools soon losing their offensiveness and becoming normal. The ordinary dose for a child is about 20 minims, administered every two or three hours, according to the severity of the symptoms. The medicine should be diluted with water, and may be flavored to suit.

Permanganate of Potassium in the Treatment of Diphtheria.

ACCORDING to the *Australian Medical Gazette*, February, 1892, diphtheria is so prevalent a disease in that country, that the journals devote a great deal of space to its discussion. One of the most recent of these is that of Dr. Bowman upon the employment of permanganate of potassium in the local treatment of the disease. He advocates the employment of a solution of three grains to the fluid-ounce, which is just half the strength of Condry's fluid. From three to four applications are made directly to the membrane with a large camel's-hair brush, every hour for eight or twelve hours. The brush must not drip as the swallow-

ing of the fluid is apt to produce vomiting.

After the prescribed time has been passed the application should be continued every two to six hours, until the membrane breaks away. Iron is used internally and a nourishing and stimulating diet pursued. Dr. Bowman reports a number of bad cases treated in this way most successfully. In a lengthy discussion which followed Dr. Furnival states, that he had used this treatment with uniform success, but advocated the use of a spray instead of the brush. Others took part in the discussion, extolling the virtues of the permanganate.

Pilocarpine in Diphtheritic Pharyngitis.

Actualité Médicale, May 15, 1892.

VIALLE reports a speedy cure in the case of a child ten years of age, who suffered from a gray attack of diphtheritic pharyngitis. One-sixth of a

grain of pilocarpine was injected every day. Local treatment was carried out at the same time, with the result of a cure in ten days.

Impetiginous Stomatitis.

IN *Bulletin de la Société Médicale des Hôpitaux de Paris*, 1891, p. 316, A. Sevestre and P. Gaston have published a paper on this interesting subject. So far it has only been observed in children as a complication or sequela of measles.

The resemblance to diphtheria was

spoken of as a striking feature. The affected parts are swollen and covered with a tenacious exudation, on the buccal surface of the cheeks, the lips, the palate and tongue. The adjacent tissues were encrusted and fissured. Microscopically, the staphylococcus aureus was found in large numbers.

PÆDIATRIC THERAPEUTICS.

CONSTIPATION.

- R. Ext. cascariæ sagradæ fl.
Glycerinæ, āā f3i ℥xx.
Aquæ qs. ad., f3ij.

M. et Sig.—3i. at bedtime to a young infant.

When the stools are hard and clay-colored, the following has been recommended by Ringer:

- R. Resinæ podophylli gr. i.
Alcoholis f3i.

M. et Sig.—1 or 2 drops on sugar t. i. d. to infant one or two months old.

BOILS.

A saline purge is required as a preliminary; f3i. of fluid magnesia or Friedrichshall water, to child 5 years old, in the early morning.

- R. Liq. potassæ, ℥ij.
Sp. chloroformi, ℥ij.
Decoct. cinchonæ, qs. ad., f3ij.

M. et Sig.—To child 3 years old, t. i. d.

- R. Acid. nit. dil.,
Acid. mur. dil., āā ℥ij.
Tinct. cinchonæ comp., ℥xv.
Glycerinæ, ℥x.
Inf. calumbæ qs. ad., f3ij.

M. et Sig.—To child 5 years old, t. i. d.

The sulphide of calcium treatment may be tried. The dose to an infant 1-10 grain, to a child of 5 years 1-5 grain every two or three hours. When there is a succession of boils arsenic is indicated. Locally f3i. liquor plumbi subacetatis to a teacupful of hot water is very soothing as a foment. The application of a bran poultice, or a sponge wrung out of very hot water, often gives great relief.—*Muskett, Treat. Dis. Children.*

GASTRIC CATARRH.

In conjunction with a treatment chiefly dietetic, give a saline laxative to clean out the stomach, and:

- R. Pepsin.,
Pancreatin., āā 3i.

M. et Sig.—About five grains after meals.

Also:

- R. Tinct. nucis vomicæ, gtt. iij.
Acid. muriatic dil., gtt. vj.
Tinct. cinchonæ comp., qs. ad. f3i.

M. et Sig.—Three times a day.—*Graham, Coll. and Clin. Record.*

SUMMER DIARRHŒA.

For children one year of age:

- R. Zinci sulphocarbolat., gr. v.
Bismuth subnit., gr. xv.
Pepsin saccharat, 3ss.
Et. in chart. No. xv. div.

M. et Sig.—One powder every hour until stools become inodorous: then every two to four hours.—*Waugh, Times and Register.*

HYPERTROPHY OF THE TONSILS.

Syrup of the iodide of iron in combination with cod-liver oil; the tonsils painted once daily with one of the following:

- R. Tinct. ferri. chlor., f3i.
Glycerinæ, f3ss.

M. et Sig.—Apply.

- R. Ammon. iodidi., gr. x. 3ss.
Glycerinæ, f3i.

M. et Sig.—Apply every night with brush.—*Waring.*

- R. Liq. ferri perchlorid., f3ss-i.
Glycerinæ, f3i.

M. et Sig.—Paint over tonsils once or twice daily.—*Mackenzie.*

- R. Liq. iodini comp., f3ij.
Glycerinæ, qs. ad. f3i.

M. et Sig.—Paint once daily.—*Starr.*

In marked hypertrophy the solid nitrate of silver, pointed, may be passed into the follicles of each gland and then applied over the whole mucous surface every other day. Should this fail, excision must be resorted to.—*Powell. Essent. Dis. Children.*

PLATE I.



CARL SIEGMUND FRANZ CREDÉ.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

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ORIGINAL COMMUNICATIONS.

Carl Siegmund Franz Credé.

BY PROF. M. SAENGER.

LEIPSIG.

THIS eminent obstetrician and gynæcologist, whose death has been so deeply deplored, was born on December 21, 1819, being the son of Privy Councilor Credé, a member of the French community in Berlin. He studied medicine in Berlin and Heidelberg, and received his degree in 1842 in Berlin. His inaugural dissertation was devoted to an obstetrical subject, "The Prolapse of the Umbilical Cord."

After receiving his degree, Credé, in accordance with the custom of the time, undertook a long foreign journey for the purpose of scientific study, and became intimately associated in Paris with Paul Dubois, and in Vienna with Klein and Batsch; on his return he was appointed, in April, 1843, as assistant physician at the Berlin Obstetrical Clinic, and he held

this position until 1848. In 1850 he qualified himself as *privat-docent*. In 1852, although only 33 years old, he was appointed Director of the Berlin School for Midwives and Superintendent of the Obstetrical Department of the Charité, at the same time he was the first physician in charge of the Gynæcological Department of this greatest of all the hospitals of Berlin, a department which had been founded at his suggestion.

In October, 1856, he accepted a call to Leipzig as a successor of Joerg, as Professor of Obstetrics and Director of the Lying-in Hospital and School for Midwives. Here, also, he immediately enlarged the institution by the creation of a gynæcological clinic and polyclinic. The development of the obstetrical polyclinic into an obstetrical and gynæcological clinic and

polyclinic, such as is found to-day in almost all German universities, had then taken place only in Berlin. The honor is Credé's of having been the first to recognize the importance of such an extension of clinical instruction in general gynæcology, which has contributed not a little toward bringing the teaching of this subject up to the high standard which it now holds in Germany. As director of the institutions under his charge he also promoted such instruction actively, in various ways, from the very beginning of his academic career as teacher.

When Credé was called to Leipzig, in 1856, he found an institution fully large enough for previous conditions and expectations; but this was soon shown to be insufficiently large, and after prolonged efforts to gain the necessary appropriation from legislators, who then were less willing than now to build clinical palaces, he obtained a grant for an extensive edifice, which was begun in 1852 and dedicated in 1878.

Completely devoted with body and soul to his profession as an academic teacher, continually conscious of the great responsibility of his position, as director of his institution, he gave himself up for thirty-two long years to the exigent duties of his profession both by day and by night, for without the weightiest reasons he never deserted his post for a day or an hour.

Increasing illness made it impossible for him to reconcile with his strict sense of duty the further tenure of his laborious position, in which even at an advanced age he granted himself no diminution of work. Therefore in the year 1887, when he was 68 years old, he retired

from the direction of the clinic as well as from the office of teacher connected with it, yet it was not to give himself up entirely to the leisure due to his age. He still belonged to the faculty as senior, and undertook the permanent presidency of the Royal Commission for the examinations of physicians and dentists; neither did he lay aside his facile pen, but continued to work as author and editor; even in the last weeks of his life he sketched out plans for new works, which it was not granted to him to finish. Adeno-carcinoma of the prostate, the first origin of which could be traced back some six years, was finally complicated by an acute parenchymatous nephritis and lead to a painful illness. With admirable stoical patience he endured the continual suffering caused by his disease, so that those most intimately associated with him could hardly suspect how much he was suffering.

With clear consciousness he bade farewell to his family, and himself ordered every arrangement which should be carried out after his death. Although he had wished for only a simple funeral, yet his burial developed into a great demonstration of the honor and high esteem which Credé had obtained among his numerous friends and pupils, as well as in all circles in the city of Leipzig, of which he had been a citizen and an inhabitant thirty-six years. His remains now rest in the burial vaults of his family in Berlin.

The literary works of Credé begin with abstracts, criticisms, reports of institutions and articles usually referring to cases; but from the beginning of his scientific career he commenced making preparations for writ-

ting a more important work, which appeared in 1853 and 1854, in a book of 900 pages entitled, "Clinical Lectures on Obstetrics." This work, the fruit of his activity for several years, as teacher of obstetrics at the Berlin University, contains, almost complete, all the practical principles which he advanced and defended in his subsequent position as professor. It is a complete text-book of obstetrics, wanting only the form and methodical arrangement of such a work, and it is to be greatly regretted that Credé did not alter his book into a systematic text-book, for it is written in a brilliant style and with a multitude of acute observations, original ideas and rich experiences. It upholds mature and moderate opinions, particularly in regard to obstetric operations, where so many representatives of the specialty err in recommending either too much, or too little. In accordance with these views both Credé, himself and his pupils, who knew how to value his "golden mean" in their obstetrical procedures, have always had good results.

Therefore his clinical lectures on obstetrics have maintained a position which they deserve in the literature of the specialty above so many works which were classical in their day, but which have been carried along and swept away by the torrent of literature which has flowed so deeply and rapidly in the last decades.

Simultaneously with the publication of the clinical lectures, Credé commenced a labor which is almost unparalleled in its length, tirelessness and importance, *i.e.*, that as author and collaborator of special scientific periodicals, from 1853 to his death, Credé was editor first of the *Monats-*

schrift für Geburtskunde und Frauenkrankheiten and of the *Archiv für Gynäkologie*, which is as much as to say that by far the greatest part of all essays on obstetrical and gynecological subjects passed through his hands of all those published in the domain of German science up to the year 1877, when the *Zeitschrift and Centralblatt* were founded.

In 1870, Credé, who had been junior editor of the *Monatsschrift für Geburtskunde und Frauenkrankheiten*, became the editor-in-chief of the successor of this journal, which has since appeared under the name *Archiv für Gynäkologie*. This change was made on Credé's recommendation. It seemed to him necessary both to concentrate the editorial department and on the other hand to induce obstetrical professors and the directors of large obstetrical institutions to participate more actively in the management of the journal; they therefore appeared henceforth as collaborators, while Credé divided the editorship only with Spiegelberg. After the death of the latter, in 1881, Credé alone was editor until Gusserow became associated with him in editing the twenty-fourth volume. Later also younger members of the specialty, who showed their interest in the *Archiv* by regular contributions of their labors, were accepted among the collaborators in a liberal way. The immense advance of modern gynecology finds its expression in the mass of scientific material which was sent to the *Archiv*. While from 1871 to 1887, that is, in sixteen years, thirty volumes were published, ten appeared in the four years from 1887 to 1891. Credé always sought to lift the *Archiv* to a higher plane. Gradually

the abstracts and reviews, and the reports of the transactions of the Obstetrical Society of Leipsig were omitted; only the transactions of the Gynæcological Section of the *Naturforscher* meetings and of the International Congresses were retained. He wished the journal to really be archives of original scientific contributions. He carefully watched over the reputation of his journal, making many enemies among those whose articles were declined, but performing his laborious duties carefully, impartially and conscientiously up to the last; he read all the proof himself, and took pains in the *Archiv*, as well as in his own writings, to preserve the purity of the German language.

Credé has published little in book form except his clinical lectures. Almost all his writings have appeared in the *Monatsschrift* and in the *Archiv*. It is appropriate here to select from these, those which have been of special importance for science, and, as we may add, for humanity. In the first line must here be mentioned his works "on the most appropriate method of Removal of the After-birth."

Inventions and progress in medical matters, which revolutionize the practice of the times, are apt to make people forget easily and quickly the nature of the former conditions which have been so transformed by new methods. As the present young generation of physicians scarcely think any more of the horrors of preantiseptic surgery, so that time is forgotten which hardly lies thirty years behind us, where pressure from above was hardly known at all as a means of extruding the after-birth when it did not come away spontaneously, and

was supposed to be "grown on." The internal separation and removal of the placenta, by means of the hand introduced into the vagina and the uterus, had, up to that time, cost countless lives. Credé first, practically and intentionally, by the recommendation of the simple method, which has been named after him, for the external removal of the after-birth, introduced a most useful change in this respect, and one that will last forever. He wished to have it called the external method, and not Credé manipulation, for it is more than a manipulation; it is a method, the proper performance of which, he was never tired of describing. Although he was willing to give up the use of his name in regard to it, a thankful world will never do this, but will leave his name, which has been best known through his method, associated with it forever in every country of the earth. The first propositions concerning Credé's method are published in these clinical lectures,¹ and it was not until six years later, after he had tested it more and more that he began to labor more diligently by speech and writing for its further introduction. Besides various addresses and articles he published that celebrated essay in the *Monatsschrift*,² which presented the subject most exhaustively, and remains of permanent value from its historical description of all methods of the removal of the after-birth which had been used up to that time.

Up to about 1880 Credé's method was then used more frequently, and in all counties, even in England, where a similar method was remem-

¹ P. 955.

² *Monatsschrift f. Geb.*, Bd. XVII, p. 274

bered which was in use in Dublin, and there was a disposition to consider that Credé's method should be used in every natural birth, just as the perinæum is always supported. At this point, however, a reaction occurred, owing to some misunderstanding of the proper indications for the use of this method, the objections being based on the following considerations:

(1) That the course of the third period of labor can generally be trusted to nature, as well as that of the first and second period.

(2) That the premature expression of the after-birth, before its separation had occurred, occasions hæmorrhage and retention of the secundines.

Thus in opposition to the active procedure of Credé, a purely expectant method was developed, of which Alhfeld was the most vigorous champion. An abundant and somewhat polemic literature testifies to the violent conflict of the two methods, which are by no means always opposed to each other. Credé entered into the dispute as if with the enthusiasm of youth; three long articles in the *Archiv.*,³ among which is to be noticed his last complete literary work, are devoted to the defence of his procedure; he rests his case especially on the admirable results obtained by this means at his clinic, and disclaims any responsibility for bad and faulty performance of his method.

And what is the result of the conflict to-day when Credé has departed from the field? In most of the clinics, in the majority of normal labors, the purely expectant method is, to be sure, practised, but always with con-

tinual readiness to use Credé's method finally. As Fehling, another pupil of Credé's, has pointed out, there is nothing to prevent the renewal of more general use of Credé's method, especially in private practice, if only the separation of the placenta is awaited, and its expression is performed afterward, just as Credé originally recommended.

This limitation and modification has, therefore, only been an advantage to Credé's method, for, as is the case with every other technical method, this has not remained unchangeable from the very beginning.

Another magnificent achievement of Credé, important alike for science and for humanity, was the introduction of prophylactic measures for the prevention of blenorrhagic ophthalmia of the newborn. The present generation of assistants in lying-in hospitals sees hardly a single case of this disease, which has the same sad effect on the eye that scarlet fever has on the ear. Formerly, however, the children thus afflicted used to come, together with their mothers, into the sick wards, which were never free from them, and the youngest assistants used to have the responsibility of treating these children with diseased eyes and directing the nurses, who were busy with them day and night. In spite of every care and the utmost zeal many eyes were then lost, although it was extremely rare that both eyes of the same patient were destroyed. All this misery has as good as vanished from the lying-in hospitals and foundling asylums, owing to Credé's services; if his method were introduced everywhere, and strictly carried out, it is estimated by Cohn, of Breslau,

³ Bd. XVII, 1888; Bd. XXIII, Bd. XXXII; also *Deutsches med. Wochens.*, 1880, No 45.

that in Europe 3,000 persons less would lose their sight every year, and that the number of the blind in the asylums for this class of patients would be diminished by fully one-third.

Prophylactic irrigations of the vagina with carbolized water had been already introduced by Haussmann, and afterward Credé had used solutions of salicylic acid, but the hopes based on these methods had been found to be delusive, and it was known that many pregnant women, whose children were afterward attacked by ophthalmia, had shown no discharge, giving rise to suspicion of gonorrhœa. In the autumn of 1879, Credé began to use eye-drops of a weak solution of salicylic acid, after washing out the eyes of the infants with borax; soon after he substituted a solution of nitrate of silver (1: 40)¹ for the salicylic acid. In three articles, which appeared in rapid succession and of which the last contains numerous historical references, as well as in a comprehensive pamphlet,² Credé described his procedure together with its wonderful results; the method was always made simpler, and finally consisted only in dropping a two per cent. solution of nitrate of silver into the conjunctival sac. Certain inflammatory appearances in the eyes of the children, which, however, were never permanently injured, caused him to try other germicides, especially sublimate; these likewise were valuable, but did not give such absolutely sure results as the nitrate of silver. In fact Kaltenbach showed

that merely washing out the children's eyes with distilled, or simply with clean water, that is the mere mechanical removal of the gonococci which might be present, was able to prevent the outbreak of ophthalmia; but as his assistant Briskén¹ has lately shown, the prevention was only sure in cases where it was possible to destroy the gonococci at the beginning of the labor by disinfectant irrigations of the genital canal of the mother. In cases where this was not practicable, Kaltenbach also employed Credé's method of chemical prophylaxis. But why should not this be generally used, since it is known as a method which is the least complicated and the surest, and since, moreover, it is perfectly harmless? Does it not show its superiority from the very fact that it is efficacious even in the cases where simply mechanical irrigation of the eye is not able to remove all the germs? Should it not, therefore, have a wider use than it has at present? Here a debt of gratitude is due to Credé. In this time when gonorrhœal infection, the main cause of the ophthalmia of the newborn, and when the pathological secretions of the vagina are so well studied, obstetricians, as a rule, and midwives also, should be required to make the simple prophylactic instillation of nitrate of silver, at least in every suspicious case..

We have no Monthyon in Germany; there have been few "awards for virtue" on account of distinguished services to humanity; therefore, it is all the more to be esteemed that Credé received such an award from the Senckenberg Institute, in Frankfurt,

¹ Archiv. f. Gyn., 1881, Bd. XVII; Bd. XVIII, 1883; Bd. XXI.

² Die Verhütung der Augenentzündung der Neugeborenen, Berlin, Hirschwald, 1884

¹ Muench. med. Wochenschr., 1892, No. 5.

for his services in preventing ophthalmoblenorrhœa neonatorum.

The duty of the obstetrician requires that he give his attention, not to the mother alone, but also to the new-born child ; in regard to the latter Credé has achieved further successes.

The invention of the incubator for premature children is his work. It was only when similar inventions were spoken of in France, and Tarnier and Auvard described their very perfect, but also very complicated *couveuse*, that Credé defended his priority, and gave a report of his experience in this respect extending over thirty years.¹

He also turned his attention to the most suitable treatment of the umbilicus of the infant, and introduced in a simplified form Budin's elastic ligature of the umbilical cord ; as a covering, instead of an occlusive bandage, he recommends a light layer of common cotton wadding, which permits the air to pass through, and should be changed once daily, at least ; after the introduction of this treatment diseases of the umbilicus almost completely disappeared from the clinic.²

Having a wonderfully facile and skillful hand as an obstetrician, Credé was an incomparable master in operating ; perhaps this circumstance was not without influence in determining his preference for an obstetrical operation, which is not generally adopted, because it requires an extraordinary degree of quickness and practice, united with caution and resolution. This operation is the application of the forceps to the after-coming head, the justifiability of which, in comparison with usual manipulations, he de-

fended in an article a few years ago, as he had always done in his lectures.¹

Without enriching obstetrics with any new operative procedure, or with any new instrument, Credé, even in his youth, always maintained what was good, old and approved. Here he was always conservative ; he always used to say, "Let others approve what is new before I accept it." Thus he employed the *kranioclast* of Simpson-Braun, but did not give up the *kephalothryptor*. The excellent results of craniotomy at his clinic were attributed by Credé, in a critical essay² on this subject, to the fact that he always taught that operations should be done early, without making previous attempts to use the forceps or perform version. It must have required an immense change of sentiment for a man like Credé, in the very last years of his clinical activity, to participate in such an alteration of practice as the substitution of the conservative Cæsarean section for craniotomy on the living child. And yet he has taken these steps with far-seeing and progressive mind. I cannot here omit to drop my impersonality, as author, and to express my own deepest thanks for all the assistance which Credé gave me in this very matter of the reform of the Cæsarean section. He permitted me to operate on the first cases at his clinic ; he lent to the new operation the weight of his name and the influence of his pen ; and he often assured me of his satisfaction that he had lived to see this change, and that his clinic had been permitted to aid in bringing it about.

Credé had that rare and enviable faculty of a learned mind, which even

¹ Arch. f. Gynaek., 1884, Bd. XXIV.

² Arch. f. Gynaek., 1884, Bd. XXIII.

¹ Arch. f. Gynaek., 1884, Bd. XXV.

² Arch. f. Gynaek., 1884, Bd. XXIV.

in advanced age remains receptive for the new, and also, looking backward, is able to represent comprehensively the final result of great questions in the light of a personal experience which extends over a long life. From the last point of view is to be judged the peculiar and, to some extent, popular book entitled, "Healthy and Sick Puerperal Women,"¹ to which, as a complement and defence, he published an essay in the *Archive*² on the same subject. In this book, which is written in language which is really classical, Credé desired to oppose meddlesome midwifery as far as concerned unnecessary therapeutic measures which had been introduced under the influence of the era of antiseptics.

Although he was one of the first, who in 1868 had established the methodical use of the thermometer in child-bed, he here strongly opposes the custom of judging of the nature and severity of a febrile puerperal affection merely according to the temperature and pulse, and of instituting local treatment only according to these indications, as he considers such a procedure not only superfluous but dangerous and injurious. As a matter of fact, the local treatment of the sexual organs in cases of puerperal fever has not accomplished what was expected of it, and Credé, after his fashion, simply recorded this fact; but little as he valued the active treatment of puerperal fever, so highly did he esteem the prophylaxis. For him that is everything, and if in order to carry it out he goes so far as to desire that internal examinations should be

almost abolished and be replaced by external examinations, he has been followed in this respect quite recently by younger members of our specialty, who have made the same demands. This may be an extreme position, but it has accomplished much good by a rational limitation of internal examination during labor, as well as of local treatment in puerperal fever, and by opposition to meddlesome midwifery of every kind. Overlooking various peculiarities, omissions and surprising utterances in this last book of Credé, its real substance and tendency will be accepted as perfectly accurate, and its influence must be appreciated as really beneficent. It is easily seen that Credé himself attributed great importance precisely to this last work of his; and it is known that within the last weeks of his life he was busy with a plan of enlarging it with another essay, in which he intended to bring into a stronger light, both historically and clinically, the importance of purely external examinations, which, in his opinion, was too little appreciated.

Credé has written many other valuable essays concerning questions now settled, but which at the time were still in dispute; for instance, one on the "Cicatricial Lines in the Skin of the Abdomen, the Breast and the Thighs in Pregnant Women and those who have borne Children;"¹ in this he has shown that these marks are not specific for pregnancy, and are not caused by subcutaneous tearing of the tissues, as was at that time supposed. He also wrote various Latin articles in which he confirmed and enlarged the teaching of Hecker and

¹ Gesunde u. kranke Wöchnerinnen, 1886. Leipsig. Arthur Felix.

² Bd. xxx.

¹ Monatss. and Geb., Bd. xiv, 5

Heyerdahl concerning the great frequency of the change of position and attitude of the fœtus; these and many others were little additions to the magnificent edifices of his great obstetrical works, which secure for him in the roll of scientific obstetricians a place beside the greatest masters of the specialty from Mauriceau and Levret to Carl Braun and Scanzoni, who departed from this life just before him. Credé was indeed great, and perhaps it will hereafter be said that he was the last of the great "pure" obstetricians.

From younger lips the expression is often heard that Credé was no gynæcologist; it is true that excepting certain reports of cases, and lectures on operative enlargement of the os uteri, on retrouterine hæmatocele, on the dangers of various intrauterine manipulations, etc., he only published a single important gynæcological treatise, and that, too, with the coöperation of Ahlfeld; this was entitled "Contribution to the Determination of the Normal Position of the Healthy Uterus,"¹ and even this admirable work, the conclusions of which are now universally accepted, has a certain obstetrical foundation, since it is based especially on examinations of puerperal women. But even if Credé has not advanced gynæcology, and especially operative gynæcology, as an originator, he was yet an admirable gynæcologist; he was fully acquainted with the gynæcology of his time and followed its later development with the most active sympathy; among the pioneers of German gynæcology, he was intimately associated with the elder Carl Meyer and with

Louis Meyer, both scientifically and in relations of personal friendship; he was also personally acquainted with Marion Sims, and was an enthusiastic supporter of his methods. He was also not afraid to perform laparotomies, which in his hands resulted neither more nor less favorably than in those of others, both before the appearance of Lister and for some time afterwards. Nevertheless, he was more particularly a master of the gynæcology of the older school of Berlin, and of the plastic methods of Sims and Simon, and his assistants know that he seldom failed of a successful result in the operation for vesico-vaginal fistula, or for a complete rupture of the perinæum, for both of which he always used silver wire. He showed by the creation of the special gynæcological departments at the Charité, and afterwards in Leipsic, that he attributed the greatest importance to the proper teaching of gynæcology; to be sure, it is long since he himself practiced the modern "heavy" gynæcology, since such an activity became physically more and more laborious for him, but, always modest and conscientious, he let younger hands perform the operations, and showed in the clinic that he fully understood and appreciated them.

Credé was and remained above all a master of obstetrics. To this he devoted his whole strength, and he always emphasized the fact that as University professor he considered it as his chief duty to educate good obstetricians, and, indeed, it would be well for the younger physicians if the spirit of a Credé, insisting on the importance of obstetrics, ruled other clinics, where operative gynæcology

¹ Archiv, Bd. 1.

is more and more favored as a subject of instruction, under pressure of the abundance of cases for operation. For the practice of obstetrics is to-day, indeed, more certain and more satisfactory, but it is also more difficult, more complicated and more responsible than it was before the introduction of antisepsis, and before the enlargement of its operative requirements.

It is due to the instruction of Credé that in Saxony, and especilaly in Leipzig, there is an excellent class of distinguished obstetricians in active service, and his successor in office is faithfully striving to increase their number. Not less is it due to Credé that there has been formed a class of carefully trained midwives. He always insisted on the importance of skillful midwives for the good of the people, and he did a great deal to improve them. He both published various articles, and made an official report concerning midwives; especially since 1863 he was continually busy with the alterations and improvement of the Saxon text-book for midwives. In this work he was also associated with Winckel and in the last edition with Leopold; as he was an authority in matters concerning midwives many text-books for the midwives of other states were submitted in manuscript to Credé for his criticism, and the authorities of many cities have availed themselves of his advice in questions concerning this subject. It is known that Saxony led the way in the introduction of an official requirement for disinfection, which was to be used by midwives, and such measures have been afterward employed in all Germany and in many foreign states.

If the midwives of to-day, in com-

parison with those thirty years back, are very patterns of cleanliness and good instruction, it must not be forgotten that it required a laborious work of education through thirty years such as was performed unweariedly by Credé and by the authorities of the institute in Dresden, in order to bring about this favorable result. He was, however, an uncommonly able teacher, whether his audience was composed of students or of much less educated women, his lecture was clear, simple, practical and always complete.

By skillful combination of theory and practice he knew how to gain attention, and to present from various points of view and in an attractive manner the apparently monotonous clinical events. The most interesting moments of his activity as teacher were each Monday at the Obstetrical Polyclinic. Here, like a general after a manœuvre, the wise and experienced man and talented master gave his judgment severely, but carefully, on the operative performances of the obstetrical students. How often it could be heard afterward from practical physicians how great were the advantages and how strong the stimulus of these never-to-be-forgotten hours. In general it was the practical instruction which formed the kernel of his method of teaching. There was no indifferent looking on, no perfunctory demonstration of the question which had been given out, in the courses with the mannikin, which he had perfected, and in the courses for vaginal examinations. Always attentive, as if it were something new for himself and instructive even for him, he was never tired of keeping the scholars until they had

felt, recognized and performed everything which was under discussion. His hearers noticed this also, and were thankful to him for it.

No academic teacher could, therefore, well enjoy greater respect or be more looked up to than was Crédé. This respect, moreover, was felt even more by his assistants who were in daily intercourse with him. It is known that the service in an obstetrical clinic is not easy, and Crédé was strict in his requirements; when he used to present his assistants to foreign visitors, he used to like to make jocose remarks as to how they were reduced by watching and labor; strict, careful and punctual to the second, he taught these qualities to his assistants, and rewarded them for their work on behalf of the institution by a freedom in the use of its scientific material, such as was not easily to be obtained at other clinics.

The accompanying excellent portrait, which actually represents to us the features of the master, so full of character, and which will remain in the possession of the Frauen klinik of Leipzig, was taken in 1881, at the time when he celebrated his twenty-fifth anniversary as teacher in Leipzig. This picture will thus give to future generations a representation of the talented, energetic and gentle feat-

ures of the highly honored man. In fact, in this countenance can be read a sketch of his whole personality, the distinguished presence, the dignified bearing, the quiet calmness which was peculiar to him and which was so attractive to all who stood in relations with him, and especially to his patients.

Odi profanum vulgus et arceo might be written under this picture, for in rare abundance all the gifts which ennoble humanity and lift it above what is commonplace were united in this man, who was so receptive for everything good and beautiful. He who was intimate with Crédé and who could look into his heart and soul, which was not open to many, could know what a noble, great, firm and unchanging character he had before him, ruled by an iron sense of duty, strict in others, but also strict to himself, and therefore filled with true faithfulness to his friends, with devoted love to his family.

In closing I will quote a sentence from the admirable discourse of his old friend and pastor, Dreydorff, spoken at his funeral, "In him there was nothing borrowed, nothing foreign, but he was moulded complete, for in everything he was himself alone."

Three Cases of Extrauterine Pregnancy.—Ligation of Ureter.¹

BY GEO. ERETY SHOEMAKER, M.D.,
Visiting Surgeon to Methodist Hospital.

EACH of the three cases here reported, presents features which bear on the general subject of the diagnosis and treatment of this condition. In only one, could a "positive" diagnosis be made before operation, if such a diagnosis can ever be made. The condition was suspected in the other cases; being probable in one, which, while showing absolutely no sign of pregnancy, had undoubted intraperitoneal hæmorrhage and peritonitis before coming under my care. Laparotomy was indicated in the third, for acute symptoms in a case with old pelvic disease, many signs of pregnancy being present.

Death in one case, to which ligation of one ureter undoubtedly contributed.

CASE I.—*Rupture and direct peritoneal hæmorrhage; peritonitis; operation refused till sixteenth day; recovery.* (Plate II.)

Mrs. E. L., aged 42, eight children, youngest twenty-six months, three miscarriages, latest *three months before* with foetus seen. Menses always regular and normal. Since the miscarriage she had missed no periods, though the flow due nine days before rupture did not appear. One week before rupture, after having had some malaise for a month, there began slight general abdominal pains. Af-

ter a hard day's work, including the lifting of tubs, she was seized, after going to bed for the night, with agonizing pain, described to her physician, Dr. Thos. J. Downs, as radiating from the epigastrium. She rose, fell to the floor, vomited, felt faint, perspired; in other words, had symptoms of internal hæmorrhage. Twenty-four hours later the case was placed in my hands by Dr. Downs, and I found the patient with greatly distended abdomen, insisting upon lying on the left side with knees drawn up, face anxious, respiration 50, pulse 80 and of fair volume, temperature 99.6°, dullness in the left flank, where fluid had gravitated, bleeding from vagina, dark with small clots. In the rectovaginal cul-de-sac was a soft, slippery mass, evidently clot, which, under examination, slipped away and allowed the uterus to descend. Bimanual examination impossible from distension and tenderness. Uterus freely movable, cervix perhaps rather soft but eroded, vagina and vestibule not blue. Indefinite yielding resistance and great tenderness to the left of the uterus. In short, it appeared to be a case of intraperitoneal hæmorrhage which had ceased and been followed by localized peritonitis.

We know from the great number of cases reported lately, that even in the absence of the ordinary signs of uterine pregnancy the chances are

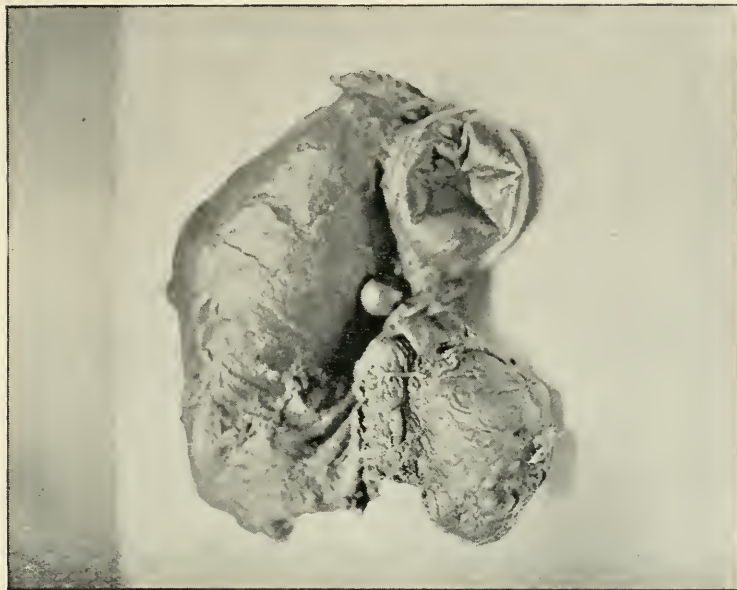
¹ Read before the Obstetrical Society of Philadelphia. June 16, 1892.

PLATE II.

CASE I.



TUBAL PREGNANCY.
POSTERIOR VIEW.—The tube lies above.



TUBAL PREGNANCY.
ANTERIOR VIEW.—Leakage occurred at the point which projects on the upper outline. The enlargement on the right below is a par-ovarian cyst; that on the left is the ovary.

greatly in favor of there being a ruptured tubal gestation in such a case as this, but such a diagnosis could only be probable. A diseased appendix will occasionally, though rarely, give some such a history; and a ruptured cyst of any sort might do it. The onset of peritonitis as early as the second day is unusual where there is simply blood effused

The patient was removed from her home, where an operation would have been inadvisable, to the wards of the Presbyterian Hospital, where she remained under my care through the courtesy of Dr. Willard. Though the hæmorrhage had ceased, after careful consideration it was decided that laparotomy and flushing was safer than waiting, notwithstanding the considerable number of cases reported by Freund and others as recovering without operation under similar circumstances. She absolutely refused operative treatment, however, till the sixteenth day, meanwhile gradually losing ground from pain, sleeplessness, fever and imperfect assimilation. There was a mitral heart-lesion of long standing. Section was finally done under the electric light in the Trendelenburg posture, the resident physician, Dr. Reynolds, assisting. It was done in the evening that there might be no delay after she definitely changed her mind. The blood in the peritoneal cavity was much disorganized, and clots adhered to the intestines. It had collected in the left side of the abdomen from the patient's decubitus, while a recent localized peritonitis had glued together the left tube and ovary with neighboring clots and loops of bowel. The right tube contained the gestation sac, still distended and firm with contained clot.

The normal relations of the ovary tube and broad ligament were undisturbed, as may be seen by the accompanying photographs, which represent front and rear views of the same specimen. The point of leakage had been on the upper and posterior free surface of the tube. The small opening had become plugged by a mass of clot which, by subsequent contractions of the tube, seemed to have been partly extruded, the plug standing out for a third of an inch beyond the opening. The point of rupture is marked in the photograph, by the elevation on the upper outline of the tube. The specimen was shrunk greatly by the preserving fluid before the photograph was taken. The specimen here presented, shows on section the cavity of the tube occupied by clot, except the portion which was occupied originally by the fœtus, the last being now shrunk by the preserving fluid. The manner in which some cases are spontaneously cured is beautifully illustrated in this specimen. Such a hæmorrhage into the gestation sac must of necessity have destroyed the life of the embryo. The plug was efficient, as no fresh blood was in the abdomen at the operation. The ruptured tube was free from external adhesions entirely, and, therefore, from inflammation, the peritonitis being confined to the opposite side. In favorable cases, where the primary peritoneal hæmorrhage was small, why should not gradual absorption occur? Of course, the destruction of the fœtus in any given case cannot be assumed, and many cases die of a second hæmorrhage. This case would no doubt have died without operation from general causes.

Another point of interest is, that

in this case blood as blood was capable of acting as a foreign body and exciting a non-septic peritonitis.

The patient made a slow but complete recovery, and has been for some months following her occupation as a washerwoman.

CASE II.—Old pelvic trouble, mild appendicitis, laparotomy for acute symptoms referred to tubes, extrauterine pregnancy not being considered more than very possible before operation; removal of cysts and an unruptured tubal pregnancy on one side and a hematosalpinx on the other.

E. K., 28 years, two children, youngest 5 years; no miscarriages; puberty at 13; menstruation every four weeks, lasting 4 to 5 days till last child; since irregular, 2 to 4 weeks; 7 to 9 days, and has flowed as long as 3 weeks at a time.

Eight years ago first child born, and nine weeks later reports that an abscess formed in left abdomen, which was opened by a physician in Shrewsbury, England. Scar shown an inch above the beginning of the outer third of Poupart's ligament; then well till next confinement, which was normal, but ever since has had pain in the right side. Two years ago under treatment in this city by Dr. Slocum, who found no tumor on right side at that time, but the left tube was firmly adherent to the old cicatrix on the left.

April 14, 1892, the patient applied to me for treatment, complaining of pain in back and lower abdomen on both sides for several days. Two days before had severe pain, causing vomiting and faintness; the pain intermittent, lasting two hours; had never had such a pain before, and not any in left side before since abscess.

She had missed no periods, but had been bleeding for two weeks.

During the next two weeks nausea and bleeding continued, with irregular pain in the left side but no paroxysms. Frequent urination; pain if bladder distended. The breasts now began to look suspicious of pregnancy and the vagina was congested but not blue. Left tube large as two fingers and hard. A mass to the right of uterus as large as a goose-egg. Tympany and general tenderness.

Section, April 1, 1892, assisted by Dr. H. A. Slocum.

Omentum inseparably adherent across front of pelvis, ligated and incised; some diffuse peritonitis, especially about the appendix vermiformis, which was as large as a goose-quill, firm, hard and strongly adherent to the tubo-ovarian mass. It was freed and examined, but not removed, as its color was a bright pink, and it seemed only to partake of the surrounding peritonitis.

The right tube, which contained the gestation sac, was inseparably blended with two cysts, and the ovary, as such, could not be distinguished from the general mass, firmly bound to loops of ileum by old organized adhesions requiring careful stripping; adherent also to bladder and omentum. Removed mass unruptured; there was no blood in the peritoneal cavity. On the opposite side, the left, the cicatrix in the abdominal wall before referred to, was strongly adherent to what had been the broad ligament. This had practically disappeared, the tube and ovary lying hard against the pelvic wall, the outer end of the tube being bound down within $\frac{3}{4}$ inch of the anterior superior spinous process. This made the application of a ligature

very difficult, but tube and ovary were removed together entire. (The old abscess, if such it was, must have occupied the broad ligament, but it had been opened in a curious place, with excellent result.) Silk twist for pedicle, silk-worm gut for parietes. No bleeding; flushed; drained 30 hours; bowels moved third day; mixed diet seventh day; up in three weeks. Patient now after two and a half months well and free from former pains; no menses; the bleeding, which had continued four weeks before the operation, stopped two days after it.

The left tube (non-pregnant) was found on examination to be very thin-walled and to be tightly distended by very hard clot, which, when rolled out, formed a cast of the tube two inches long by three-fourths of an inch in diameter. The inner end of the clot was white as though old and tightly squeezed. Microscopical report has, unfortunately, not yet been received.

The right mass had three cavities. Two were thin-walled cysts, containing about one-half ounce of watery fluid each. The third was the tube distended also by watery fluid, the liquor amnii, about one ounce. Rugæ could be traced in places longitudinally. Upon the upper and posterior surface was situated the placenta of the size of an old-fashioned copper cent. This was readily separable from the tubal wall, feeling like placenta, but it was preserved largely in situ that sections for the microscope might be made. Nothing which could be identified as foetus was found. Sections of the tube wall and placenta are here shown under the microscope, which display admirably the villous structure of the organ.

The fact that the foetus was not found even in this unruptured case, examined within a few days of removal, emphasizes the difficulty in detecting a small body, at times not over one third of an inch long, in the debris of a case which has ruptured. The situation of the embryo in a tube is undoubtedly hostile to its proper development, and as in the case of the so-called apoplectic ovum in the uterus, the embryo, always imperfect perhaps, is rapidly disintegrated. In all cases, however, of supposed extra-uterine pregnancy, other material evidences should be demonstrated if the foetus is lost.

CASE III.—*Rupture into broad ligament, then into peritoneal cavity; ureter ligated; death.*

The third case was in some respects the most interesting, in that the history was typical, enabling an almost certain diagnosis to be made before operation.

The patient was sent to me by Dr. Henry Redmond. She was 32 years old; one child 6 years old; no miscarriages; a widow for six years (afterward found to have been illegitimately cohabiting for two or three months); menstrual history normal, with little or no pain; had missed no periods, but the last one five weeks before, had lasted but one day instead of the usual five. The history was obtained with some difficulty. It was, however, learned that there had been four attacks of pain in the right side of the abdomen within a month, the first bringing her fainting to the floor. This was one week after the shortened menstrual period referred to. Each attack had been followed by bleeding, at first dark and clotted, then lighter. Pain, unknown before, continued in

the right side and down the fore part of the right thigh to the foot, especially in walking. Examination was made under ether, with Dr. H. A. Slocum, when we separately made, unknown to each other, the diagnosis of unruptured extrauterine pregnancy. [The contents of the tube, however, were shown at the operation to have already reached the broad ligament at this time by the presence of very firm clot in that locality, whereas rupture into the peritonæum occurred after this examination.]

The conditions were as follows: Vagina and vestibule decidedly blue from capillary stasis, especially beside and below the meatus urinarius; cervix soft; uterus slightly enlarged, movable through short excursus, except from side to side, but tilted to the left by an enlargement in the right tube and broad ligament. This mass was completely fixed; its upper portion seemed to be continuous with the uterine cornu, while the lower presented a broad base to the right of the uterus, one half inch above the external os, and extended half-way across behind the cervix. This last-named portion [tube] felt like a sac of fluid. There was an abundant flow of thick, pinkish-red, bloody fluid, free from odor of decomposition, such a fluid in appearance as is sometimes seen in chronic salpingitis.

There was no history of morning vomiting, and the breasts were negative. After recovery from ether, the patient was confronted with the diagnosis, and admitted cohabitation. Note the contrast. Here was sterility for six years, then cohabitation under excitement, with fear of detection. In Case No. I, a healthy woman with eight children, gets a tubal pregnancy

under apparently normal conditions, three months after a miscarriage! It illustrates the difficulties of diagnosis from the history.

The case was put in a private room at the Presbyterian Hospital, operation being delayed twenty-four hours at the earnest solicitation of a colleague who was suddenly ill. This was a serious error, as during that time rupture occurred into the peritoneal cavity. At the operation thin, dark blood welled from the cavity as soon as the peritonæum was cut. The left adnexa were normal and were not disturbed. The condition of the parts on the right side was totally different from that in Case I, since here a primary rupture had occurred into the broad ligament. A short, thick mass, representing the tube, lay low down, partly behind the uterus, where it was strongly adherent. The broad ligament proper could not be found, but on unrolling the tube upward, the fingers passed forward and outward into an irregular mass of old, hard clot, and what appeared to be placental tissue lying to the right of the uterus. This had raised up the peritonæum, obliterating normal relations. The thickened uterine end of the tube was extremely soft, so that the ligature cut through three times in spite of care in tying. After everything removable had been scooped out and separated, in spite of adhesions, there remained a space bounded above and somewhat in front by a sac wall more than half-an-inch in thickness. There was no bleeding, but it seemed desirable to tie off a part of the ragged and redundant wall of the gestation sac out along where the broad ligament should have been. In doing this, through the very small parietal

incision, and out of sight, the point of the needle, though not deeply passed, picked up the right ureter and it was included in the ligature. It is even now somewhat difficult to account for this, for the location of the ureter was held in mind at the time. The normal relations at the base of the broad ligament had been greatly disturbed by the dissection of blood beneath, making their establishment by touch very difficult. It is not unlikely also that the floor of the space was raised by a mass of cotton which had been used by an assistant in raising the uterus into the wound per vaginam. This manipulation had been necessary at an earlier period, in order to get a ligature on a very short stump. It is a source of regret that the three-inch incision was not made larger, in order to facilitate the management of a difficult case.

The accident being unsuspected, the cavity was flushed and drained, and the patient put to bed in fair condition, the pulse an hour later being 100. No bleeding. Tube out in twenty hours. For the first twenty-four hours the condition presented nothing unusual except restlessness. The patient was extremely unreasonable and difficult to manage, behaving like an injured animal; but as she could not understand the language of her attendants, and appeared to feel disgraced, I thought this might be largely mental. She passed by catheter, at various periods, $41\frac{1}{2}$ ounces of urine in the first twenty-four hours, and complained very little of pain, at no particular locality. She vomited but once.

During the second twenty-four hours more nausea developed, and the

same restlessness continued. As there was some tympany and some general abdominal pain complained of, the administration of Rochelle Salt, hourly, was begun, nutrient enemata being given with small quantities of beef juice and beef tea, by the mouth. She passed sixteen ounces of urine during this time. The respiration continued high, 30 to 40, though the pulse varied from 98 to 118 only. The temperature, which had touched 100 for the only time two hours after the operation, remained about normal, but at the end of forty-eight hours dropped to $97\frac{1}{2}$, and the patient looking anxious and having tympany, the onset of peritonitis was feared. Efforts to move the bowels were redoubled, but in vain. Enemas containing magnesium sulphate, glycerine or turpentine, were at once rejected, and could not be introduced above the sigmoid by catheter or rectal tube. Salts and calomel were vomited. The urine was very scant. Just before death, which occurred at the end of seventy-two hours, a small amount of fæcal matter was secured per anum, this difficulty in moving the bowels being the dominant thought in my mind, as obstruction was feared. At no time was there pain localized in the right side, nor did reopening of the abdomen seem justified. The drop in temperature to 97° was not followed by a rise, and peritonitis did not develop. The patient seemed to have died exhausted, having to the last pulled herself restlessly about the bed, with little or no delirium, no coma, the mind remaining clear to the end. There was very likely a toxæmia, but not a true uræmia, from impaired renal action, sympathetic in the opposite kidney; there was also

an element of shock from what appeared like bowel obstruction. The notes of the pathologist of the hospital, Dr. H. E. Cattell, are appended. I am indebted to him also for photographs and sections of specimens in the other cases.

X., German; admitted to the Presbyterian Hospital December 17, 1891; died December 22, 1891. Ward, private. Visiting physician, George E. Shoemaker. Clinical diagnosis, extra-uterine pregnancy. Pathological diagnosis: death due to shock, from removal of a right tubal pregnancy, November 23, 1891.

Body of a well-formed girl, with an anxious look on her face. No rigor mortis. P. M. lividity well marked. Decomposition of abdominal parieties. In abdomen, incision below umbilicus; wound in good condition. Large omentum, dark and congested; on the small bowel, one point of attachment to wound. No signs of general peritonitis, though in a few places lymph had been thrown out. The sigmoid flexure made an S turn, and may have accounted in a large measure for the difficulty with which the bowels were moved.

The intestines filled with gas; contents small in amount and fluid.

Lungs: adhesions on right side; no pneumonia.

Heart: small; more fat than normal; not opened.

Kidneys: anæmic.

Liver: apparently normal.

Condition of wound: There had been two ligatures applied, the one to the pedicle and the other in the broad ligament; the latter had included the right ureter, and had caused almost complete retention of the urine on that side. The ureter

was enlarged to over double its normal size above the ligature, and was tortuous and filled with urine, under pressure.

There had been no hæmorrhage. Rupture of tube before operation had probably taken place posteriorly. Peritonæum below that covering kidney congested and hæmorrhagic. Both ovaries present. Left tube and appendices not touched in operation.

Injury to the ureter during operation probably occurs with considerable frequency, though it is hard to find cases recorded.

Pozzi¹ considers that the ureter is often ligated, and that many of the deaths attributed to shock are really due to this accident. Systematic writers generally say that the accident is not infrequent, but they fail to give cases, except those of Hegar, Simon, Nussbaum, Walter and Tauffer, to which many refer. G. Eustache² made a search of the literature, but could find only three cases in Germany and none in England or France. Joseph Price³ reports having severed both ureters in a hysterectomy, and afterward switched them into the bladder with recovery. The writer has verbal knowledge of an unreported case in which both were ligated, but afterward released because of suppression. Recovery. Greig Smith⁴ states that Simon, Archer, Bœckel and others have done nephrectomy for ureteral fistulæ, caused by accidental wounds during hysterectomy.

Henry Morris,⁵ of London, speaks

¹ Gynæcology, 1891, p. 305.

² Arch. de Toccol., April, 1880.

³ Transactions Obstetrical Society of Philadelphia, 1891, p. 137.

⁴ Abdom. Surgery, p. 560.

⁵ Int. Ency. Surgery, V, 327.

of having himself divided the ureter and afterward turned it into the vagina. He does not say with what result.

Ligation of one ureter is not necessarily fatal, but, of course, might contribute to a fatal shock. Unfortunately no train of symptoms can be given which would surely lead to a discovery of the accident if a single ureter is occluded. Pain would be looked for as most marked from analogy with calculous obstruction of the ureter. In my case it was not characteristic or very marked. There should be reflex vomiting. In my case vomiting occurred but once in the first twenty-four hours and seldom in the first forty-eight. It was no more marked at any time than we at times see in cases which do well. Distention from hydronephrosis cannot be looked for. This occurs after many weeks only when there is partial and not total obstruction, the pyramidal portion of the kidney being gradually absorbed, and the cortical portion being distended so as to form a large sac. "If the ureter be completely blocked at once, as it is by a calculus in a case of obstructive suppression, the flow of urine ceases almost immediately and the kidney undergoes atrophy without any dilatation whatever."⁶

The flow of urine is worth noting. Sudden closure of one ureter is usually followed by intense congestion of the corresponding kidney, and partial suppression in the other from shock.¹

It will be noted that in this case there was abundant secretion for twenty-four hours; the bladder being empty at operation and the catheter bringing 41½ ounces at various times in twenty-four hours. There were 16 ounces in the second twenty-four hours, but none is recorded by the nurse for the day of death. It could not be expected when no fluids had been retained for many hours before death, and when copious vomiting of mucus was going on, that there would be much urine secreted, even if the kidneys were sound.

The only points of symptomatology, which reflection on this unfortunate case suggest, are restlessness and anxious expression, with gradual diminution of urine secretion. There should have been pain of a definite character as in calculus, but there was not, and the conclusion is inevitable that after an operation there may be so many explanations for the same symptoms that, in the absence of localized pain, recognition of the accident will always be difficult or impossible.

⁶ Bruce Clarke, *Surgery of Kidney*, p. 58.

⁷ Mansell Moullin, *Surgery*, p. 956.

Multiple Fibromata Uteri; Removal of Ovaries and Tubes; Continued Growth of Tumors.¹

BY B. F. BAER, M.D.

THE history of this case proves that the removal of the ovaries does not always stop the growth of the tumors or relieve the symptoms. In my experience it seldom does if the tumors are small and intra-pelvic. The patient from whom this specimen was taken was 43 years of age and single. She was brought to me in August, 1891, by Dr. John H. Wilson, of Bethlehem, Pa. She has always suffered more or less from dysmenorrhœa. Ten years ago she began to have hæmorrhage with increased pain. Both pain and hæmorrhage had increased in severity, and during the last two years, following an injury she thinks, she had had great pain in the left ovarian region, at times excruciating. She had lost considerable flesh and presented an anæmic appearance.

Examination showed the uterus to be enlarged and to contain several subperitoneal fibroid tumors the size of an egg and smaller. To the left of the uterus, and posterior to the broad ligament, a mass the size of a duck's egg was found. This mass was firmly fixed and tender on pressure, and was thought to be an enlarged left ovary. The right side was affected similarly, but in a much less degree. Laparotomy was advised, and she entered my private hospital for that purpose.

Operation was performed Septem-

ber 1, 1891. A large ovarian hæmatoma on the left, and a smaller one on the right side were separated from dense adhesions and removed. I did not consider hysterectomy necessary at this time, for I hoped that having removed the ovarian tumors the fibroids would disappear.

She made a good recovery from the operation, and went home within three weeks. The pain and hæmorrhage were absent during the next five months, but she did not regain the lost weight, and remained almost cachectic in appearance. At the end of this time bleeding began again, and she rapidly became more reduced and was forced to return for further advice. Examination now showed that the fibroid tumors had gone on growing after the ovaries had been removed. Although the pain had been removed to a large extent, it also had returned. She begged that a radical operation might be done to give her relief. She did not wish me to again open the abdomen, and asked if the tumors could be removed in some other way. I unfortunately agreed to do the operation by the vaginal method. This I did two and a-half months ago. The patient was a virgin, 43 years old, and you can imagine the difficulty I met with in delivering this mass through the long narrow vagina. I have here the uterus with five fibroids attached to it. The uterus itself is small, the bulk being made up largely of the

¹ Read before the Obstetrical Society of Philadelphia, June 16, 1892.

tumors. The specimen shows how thoroughly the tubes and ovaries had been removed. The location and inspection of the tumors in the pelvis probably had something to do with their continued growth, for their congestion was greater in consequence.

I would not again attempt the removal of such a mass by the vaginal method. Two things caused me to agree to it in this instance; first, the patient's desire not to have section of the abdomen and, secondly, the fear I had that the tumor might be taking on a malignant change, making total extirpation advisable. I was assisted in the operation by Drs. Dorland and Ashton, and they will agree as to the difficulty experienced. The patient has recovered.

A LARGE SUPPURATING FIBROUS TUMOR WITH PEDICULAR ATTACHMENT TO THE FUNDUS OF THE UTERUS.

On January 23, 1892, Mrs. A. was brought to my office by her physician and husband. She was so reduced in strength, from loss of blood and extreme suffering, that she was almost constantly confined to bed. Her cachectic and anæmic appearance resembled that seen in the advanced stage of carcinoma of the uterus. The history obtained was as follows: She was 46 years of age and had two children, the youngest being 14 years. Ten years ago she began to suffer from hæmorrhage. The flow was at first only slightly above the normal, but it gradually increased in quantity, and on several occasions during the last two years, she has had such profuse flooding that she was in extreme collapse from loss of blood. Finally, she began to have fœtid discharge in the intervals between the bleedings

and showed evidence of septic poisoning. During the last year she has suffered with attacks of uterine tenesmus, which have been increasing in severity. These pains had somewhat diminished during the previous week, but she then began to suffer with inability to void her urine. Her present physician made an investigation when first called to see her, and found a mass occupying the vagina, which gave him the impression that his patient was suffering from malignant disease of the neck of the womb, and that her malady was therefore probably incurable. In this I was disposed to agree with him, from the appearance of the patient and the odor that was quite perceptible even from a distance. But the history of the long-continued hæmorrhage and the peculiar character of the pains, rather indicated a degenerating fibroid which the uterus was endeavoring to expel.

On examination I found, just within the vulvar orifice, a mass of pale, whitish tissue which resembled the appearance presented by carcinoma of the neck of the uterus. A finger was introduced within the vagina, where a large rounded mass was found, entirely filling the pelvis and pressing firmly upon the urethra and rectum. The tumor was as large as a child's head, and occupied the position which that organ occupies in the second stage of labor. By carrying the fingers up and around this mass I was just able to feel the rim of the cervix, which was greatly dilated. At several points the surface of the tumor was friable, but there was a toughness at its upper portion which caused me to believe that the growth was fibrous. Placing my

hand upon the hypogastrium I found there a circumscribed tumor, which, from its fluctuating character and shape, I believed to be the distended bladder. A catheter was at once introduced, and at least three pints of urine flowed, the hypogastric tumor disappearing and the patient immediately feeling greatly relieved. Operation was advised, and, with the assistance of Dr. W. A. N. Dorland and Dr. Bechtel, it was performed at her home the next day.

After the patient was anæsthetized and on the table, her family physician urged me not to proceed with the operation should it prove, on further examination, to be malignant, and I must confess that the markedly cachectic appearance of the patient and the odor caused me, even then, to doubt the correctness of the opinion which I had expressed the day before. After thorough irrigation with bichloride solution, I convinced myself that the tumor was a fibroid. I proceeded to break down the softened, degenerated portion of the tumor. The remainder proved to be exceedingly tough, and required the greatest effort to deliver it through the vulvar orifice. When the tumor was removed from the vagina it was found to be attached to the fundus of the uterus by a good sized pedicle. This was severed with scissors. The uterus was now found to be almost entirely inverted, but I succeeded in replacing it. There was very little hæmorrhage, and after thoroughly irrigating and tamponing the cavity of the uterus and vagina, the operation was concluded and the patient returned to bed. She made a good recovery.

A CASE OF SUBPERITONEAL FIBROID TUMOR WHICH CONTAINED AN ABSCESS CAVITY: AN EMERGENCY OPERATION TO SAVE LIFE.

The next specimen is a suppurating fibroid tumor which I removed two months ago. The patient was 36 years of age, married and the mother of four children, the youngest of which was 13 years. She had been suffering for several years from various pelvic symptoms, such as metrorrhagia and pain—the latter being the most prominent. For two or three months before coming under my care she had every evidence of suppuration in the pelvis, as shown by rise of temperature, pains and symptoms of sepsis. She was *in extremis*. Examination showed a large mass in the pelvis, principally on the right side, pushing the bladder to the left and upward, and apparently located directly under the bladder. It was hard, nodular and tender; it seemed to be the enlarged uterus with a fibrous spur on the right side.

Operation April 25, 1892.—Hypogastric incision exposed the tumor and found it deeply imbedded in the pelvis and within the peritoneal folds of the broad ligament. The uterus, which contained another small fibroid, was crowded to the left. It was necessary to make an extensive dissection and to open the folds of the broad ligament before the tumor could be enucleated from its nest. During the manipulation a pus cavity in the outer portion of the tumor was opened, and about half a pint of pus was discharged. The tumor was attached to the right side of the uterus, from which it was detached without ligation. After the mass was ex-

tracted a large cavity existed in the broad ligament and beneath the bladder. There was a general venous oozing. Seven sponges were packed into the opening and compression made for a few minutes. They were then removed when it was found that the bleeding had ceased. It had been my purpose to perform hysterectomy, but the operation was one of such severity that this, with the presence of the pus, caused me to conclude the operation. While controlling the hæmorrhage by sponge packing, I considered the question of drainage and decided against it. I had removed the suppurating tumor, and the space which it occupied was the now freshly denuded and clean and vascular walls of the broad ligament. The only drainage which would have been proper would have been gauze packing. This I considered would have been a disadvantage and would have delayed healing. I closed the wound and the patient was at once convalescent. There was slight oozing of serum from the incision for several days, and this afterward became purulent. Finally a small fistula was left. This was afterward dilated and packed with a small strip of iodoform, when it finally closed up. I should not have used a glass drainage tube in this case under any circumstances, but it might have been better if I had packed with iodoform gauze. She has made a good recovery, however, and is safe.

A CASE OF MULTIPLE FIBROMATA UTERI INCARCERATED IN THE PELVIS; COMPLICATED WITH HYPERTROPHY OF THE BLADDER; HYSTERECTOMY BY A NEW METHOD.

The next case is one which proves

that the menopause does not stop the growth of fibroid tumors. During the last three months I have had three hysterectomies in women beyond the age at which the menopause should have occurred. This specimen is from a woman 49 years of age. She had been married twenty-five years, but had never borne a child. For a number of years she had suffered from pelvic pain, pressure symptoms and hæmorrhage. After the time when the menopause should have occurred she suffered more. Finally she had constant hæmorrhage for a month or two at a time. But the symptoms which caused her to apply for relief and submit to operation was retention of urine. For several years she had suffered from difficulty in emptying the bladder and at times catheterization was necessary. During the previous few months this had become a very distressing symptom.

Examination showed the pelvis literally packed with a hard, nodular tumor, the upper portion extending into the hypogastrium. The mass was not only incarcerated, but seemed to be adherent. One nodule was firmly wedged against the urethra, so that the catheter could only be passed with difficulty. The bladder was found large, and contained three pints of partially decomposed urine. She was importunate for any operation which promised relief.

Operation March 26, 1892.—After making the incision, I found that the bladder extended over the tumor, and it was only by extreme care that I avoided wounding it. The tumor was found imbedded in a mass of organized adhesions, which glued it to every portion of the pelvis. By its

size, also, it was fixed as if wedged into the pelvis. In its growth it had so distended the broad ligaments that they could not at first be identified. After half-an-hour of dissecting, and tugging at the uterus and tumors, I succeeded in elevating the mass to a certain extent, but could not elevate it enough to get it through the incision, because of its deep pelvic location. I could not, therefore, proceed with the operation as I had intended, as the broad ligaments were so spread out that I could not pass my ligatures. I then incised the uterus, and began to enucleate some of the tumors. This large goose-egg-sized tumor came from the cavity of the uterus. It is almost as smooth and hard as a billiard ball. After about six of the tumors had been removed, the uterus was collapsed enough to permit me to proceed with the ligation of the broad ligaments. I then began to ligate after a method which I consider the best in performing hysterectomy. I passed a *single* ligature through the broad ligament close to the neck of the uterus, but *avoiding uterine tissue*, and tied outwards. The broad ligament was next severed with scissors between the ligature and the Fallopian tube and ovary. This was repeated on the opposite side. The knife was then run lightly around, incising the peritoneal covering of the cervix. The severed edges of the peritonæum were next stripped downward with the handle of the scalpel for the purpose of making peritoneal flaps. Another ligature was then passed through the severed broad ligament alongside of the cervix, including the uterine artery and the double fold of the ligament in one sweep. This was also repeated on

the opposite side. This ligature served the double purpose of controlling the uterine artery, and of closing the opened broad ligament. The constant traction which was kept up during these manipulations, after the peritoneal covering had been incised, served to still further draw out the cervix and to thereby permit deeper incision into the tissues of the neck, which was now amputated with the knife by a deep wedged-shaped incision. The vaginal portion of the cervix being thus released, it immediately receded and was drawn deeply into the pelvis by the retractive and elastic property of the tissues, where it was buried out of sight by closure of the ligated broad ligaments over it. There was not any hæmorrhage, and the pelvic cavity was seen to be clean and smooth. According to Schroeder's method the amputated cervix is covered with peritonæum, secured by a row of sutures. But the two lower ligatures, applied to control the uterine arteries, had so constricted the broad ligament that after the cervix was severed, they as effectually closed the cavity into which the cervix dropped, as if a row of sutures had been applied for the purpose. I therefore, concluded the operation, which had already lasted eighty minutes. The patient made an excellent recovery, her temperature never going above 100°.

The result in this case has caused me to treat the pedicle in a similar manner in all of the hysterectomies which I have performed since, numbering five, and the patients have all made a smooth recovery. This experience shows that it is unnecessary to spend the time required to place sutures for the purpose of covering

the stump with peritonæum, after the manner of Schroeder. *Another decided advantage of this method is the absence of constricting ligatures of any kind or form from the muscular tissue of the cervix.* This has been the one thing most dreaded by operators, and has caused them to hold to the extra-peritoneal treatment of the pedicle by the serre-nœud, or to resort to total extirpation. I am opposed to the total extirpation of the cervix, unless the disease is malignant. The vaginal walls should not be severed if it is possible to avoid it, for the vagina is unquestionably more relaxed at its upper portion in consequence; and the natural contour of the floor of the abdomen is destroyed when

the cervix, the keystone of the arch, has been removed. There is no reason why we should not leave a small quantity of cervical tissue. Some one has said it will undergo malignant change. I have never heard of such an occurrence, and believe it must be exceedingly rare; even if it did occur once in a while, it could then be easily removed. Vaginal examination a long time after total extirpation of the uterus shows the vagina narrowed and shortened, whereas, when the cervix is left, the natural contour is so well maintained that it is difficult to tell by vaginal examination only, that a hysterectomy had been performed.

Uterine Cancer.¹

BY J. M. BALDY, M.D.

THE first specimen presented represents most beautifully endometrial cancer. The woman had the ordinary clinical history of the disease, and the microscope substantiated the diagnosis. The uterus was removed by the vagina with clamp forceps. The points of the forceps overlapped, and in consequence the ovarian artery on the same side remained uncompressed and bled freely. After much difficulty the vessel was caught up and ligated, but only after some very tedious, difficult and anxious work.

The second specimen is also that of a cancerous uterus, removed by the

vaginal method, by means of clamps. Profiting by my former experience, I had a pair of clamps made with two upright pieces at the end of one of the blades, in such a manner that the upper blade would close down between the upright bar and thus prevent a similar accident to the former one. In spite of the greatest care on my part, when I came to severing the uterine connections after placing the clamps, the point of one of them was found to be on the outside of the upright bars. The consequence again was a bleeding ovarian artery. I found it impossible to find and ligate the vessel, and so was forced to perform an abdominal section to control

¹ Read before the Obstetrical Society of Philadelphia, June 16, 1892.

the hæmorrhage. My experience with the clamps has been so unfortunate that I have relegated them to my instrument case forever and do not expect to use them again. The method by the ligature is so much safer that in future I shall confine myself to it.

As to the cure of cancer cases, I can only express doubt. The majority of cases, after the removal of the uterus, die within three years of a return of the disease. A small minority remain well after this time. It is notorious how difficult it is to diagnose the disease in the uterus with the microscope, and it is fast becoming the habit to operate on all suspicious cases. My own opinion is that many of the supposed cures are not cancer at all, but *suspicious* cases. I do not mean to insinuate that suspicious cases should not be operated upon, but only to draw attention to the fact that we cannot expect such good results as statistics would indicate. I am more and more inclined to believe, that the disease is a general and not a local one. In any event, if we are to obtain good results, it must be through early operation. For this reason (while a doubt remains as to the nature of the disease) suspicious cases are the most favorable for operation, in that the diseased organ is removed at the earliest possible moment and the best chance of a good result obtained. The second specimen shown you is a suspicious case, and I should not be at all surprised if it was not a cancer at all. The history was most fairly clear, the microscope only suspicious. Several

other gentlemen before me had diagnosed malignant disease. I explained the nature of the case to the patient and she elected the operation.

EXTRAUTERINE PREGNANCY.

The specimen which I hold in my hand is a typical one of this disease. The fœtus is *in situ* attached to the placental veins by the umbilical cord. It was an unruptured cyst and had not been diagnosed prior to the operation. The patient was sent me by the late Dr. Agnew, and neither of us suspected the true condition present. It is only another example of the difficulty of diagnosis in this disease, a difficulty which I have often emphasized here as well as elsewhere. The specimen is one of some twenty or thirty which I have removed.

CYST OF THE ORGAN OF MORGAGNI.

The cyst in this specimen is, as you see, about the size of a goose-egg. These cysts are quite common but are generally quite small. Cysts of this size are rare. Had the diagnosis of this cyst been made prior to operation, it could have been ruptured and an operation avoided. It was mistaken for an ovarian cyst, however, and removed by abdominal section. You will perceive that this ovary is covered by small cysts—is in fact a so-called cystic ovary. The ovary is a specimen of that class of ovaries which are so commonly removed, and which should not be removed. A cystic ovary is not necessarily a diseased ovary, and, unless complicated by some other disease, which, in itself, demands interference, should be let alone.

A Case of Primary Peritoneal Pregnancy Section Followed by Recovery.¹

BY WILLIAM EASTERLY ASHTON, M.D.,

Professor of Gynecology in the Medico-Chirurgical College of Philadelphia.

I FIRST saw the patient in consultation with her physician, Dr. C. H. Jennings, of Merchantville, N. J., on February 29, 1892. Her history was as follows: Mrs. L. F., colored, 25 years of age, and married three months. Her health had always been good, and I could obtain no history of hereditary disease. Menstruation occurred two weeks prior to marriage and appeared again fourteen days subsequently. From this on she bled continuously, at times profusely, but at no time were shreds of mucous membrane passed by the vagina. None of the subjective symptoms of pregnancy were present, nor did the patient believe herself to be in that condition. Dr. Jennings saw the patient on February 15, 1892, and found her suffering with a local peritonitis of the lower abdomen, and upon palpation he discovered a tumor in the hypogastric region to the right of the median line. By the twenty-eighth day of the month the peritonitis had become general, and the tumor had grown to the size of a fist. The following day I saw the patient with Dr. Jennings. The pulse was from 120 to 130 per minute, the temperature normal, and her general condition was extremely unfavorable. Examination revealed an enlarged fixed uterus, apparently filling up the pelvic cavity. Bimanual examination showed the

tumor to the right of the median line to be continuous with the uterus. The abdomen was somewhat distended and extremely tender to the touch. A diagnosis of general peritonitis was made, due, either to a fibroid uterus complicated with a pelvic abscess or to an ectopic gestation cyst. An operation was advised and consented to by the family.

Operation.—On March 3, I operated upon the patient at her home, Drs. C. H. Jennings, Thos. G. Ashton, Brewster and Mr. J. Louis Borsch assisting at the operation.

After making the incision through the abdominal wall, the peritoneal cavity was found filled with a large quantity of fluid and clotted blood, and the omentum was firmly adherent to the posterior wall of the uterus just below the fundus. The uterus was enlarged to the size of a fist, and crowded upward and toward the right side, its fundus forming the tumor in the hypogastric region felt prior to section. The uterine appendages on both sides were absolutely free from adhesions, and normal in character. The utero-vesical pouch and the walls of the bladder were normal. After the omentum had been ligated and cut away from its attachment to the uterus, a large mass was felt upon the left side posterior to the broad ligament. The abdominal incision was then enlarged and the tumor found to consist of coils of small intestine

¹ Read before the Obstetrical Society of Philadelphia, June 16, 1892.

matted together. The peritonitis was not general, but limited to the region of the mass. A sharp hæmorrhage was seen coming from a rent in the superior surface of the tumor. This was, evidently, where the blood came from which was found upon first opening the abdomen. Carefully passing my finger through the opening, I found a large cavity occupied by a mass of clotted blood and a fœtus. The child was then extracted, the cord ligated close to its placental attachment and cut. The bleeding now became alarming, the blood coming from all parts of the cyst cavity. Under these conditions it would have been a hopeless task to attempt to find the bleeding points and to tie them. I, therefore, irrigated the cyst cavity with hot sterilized water and packed it with several strips of aseptic gauze. This completely checked the hæmorrhage. I then thoroughly irrigated the general peritonæal cavity and sutured the abdominal incision, leaving the ends of the strips of gauze outside of the belly-wall.

Post-operative History.—The gauze packing was removed on the eighth day, and the cyst drained with a rubber tube and irrigated daily with a sublimate solution (1.2000). In twenty-four hours after the removal of the packing, the cyst began to suppurate profusely and continued to discharge large quantities of pus for at least three weeks. The sulphate of magnesia was given in twenty-four hours after the operation, and a free bowel movement occurred within a short time. There was more or less diarrhœa during the entire period of con-

valescence, at times so severe that it called for treatment. On the 28th of March, a fæcal fistula suddenly developed and was followed by a copious discharge of fæces through the abdominal opening. The fistula is now gradually closing, and at the present time almost all of the fæces passes through the natural passage. As soon as the intestinal contents began to be discharged through the abdominal opening, the rubber tube was removed and the cyst irrigated daily with plain water. Later on, however, the irrigation was stopped and the surrounding parts kept clean and protected with absorbent gauze. The temperature was normal immediately after the operation, and remained so until the gauze packing was removed on the eighth day, when it suddenly shot up to 100°. It then ranged between this point and 103.3° until the 15th of April, when it became normal again. The pulse was 120 when the patient was removed from the operating-table. It then gradually decreased until the packing was removed, when it again became rapid and in a short time reached 136 per minute. From this time on until the temperature became normal, it varied in frequency, the lowest number of beats being 114, on March 20, and the highest number being 148, on April 9. The stomach at no time was irritable, and nourishment was well borne.

A recent letter from Dr. Jennings informs me that the patient is rapidly gaining weight and strength, and that she is taking exercise daily in the open air. The fistula is now practically closed.

Management of Cancer of the Uterus, Complicated by Pregnancy, with Report of Case.¹

BY A. VANDER VEER, M.D.,
OF ALBANY, N. Y.

PREGNANCY and uterine cancer are conditions, fortunately, rarely associated. Winckel, Stratz and Sutugin saw, out of nearly 42,000 cases of pregnancies, in three great obstetric clinics, but twenty-two cases of cancer of the uterus, as a complication. Consulting obstetricians see relatively more cases than do general practitioners, and apparently see as diverse results of treatment. The late Dr. Fordyce Barker reports three cases which were delivered of living children at term, the mothers recovering from childbed without serious drawbacks. Other obstetricians of equal skill have seen this complication followed, time after time, by the death of the mother. Puchett, out of twenty-seven cases, saw five die undelivered during labor, nine shortly after delivery, ten recovered from labor, and in three, results are not stated. Leaving out the three cases, results not given, we have a maternal mortality of fifty-eight per cent. plus.

Cohnstein found a maternal mortality of fifty-seven per cent; Hermann, out of 180 cases, found a maternal mortality of forty per cent., twenty per cent. of these dying before delivery took place. To consider the subject more accurately, out of nearly 300 women suffering from this complication, and in labor at end of gestation, fifty-two per cent. died undelivered or never left their beds. Mater-

nal mortality is not materially lessened by abortion and premature delivery. Sepsis, after delivery of the fœtus, from absorption of unhealthy and non-cicatrizing granulations, or from retained placenta, is responsible for a large proportion of the deaths; post partum hæmorrhage and rupture of the uterus still for another. Few who survive the ordeal of delivery live three months.

For the children, are the conditions less favorable? Only thirty-three per cent. of the above series were born living, and hardly twenty per cent. lived until the mother left the childbed.

I know of no condition of disease that presents a darker or sadder image than does this one. This subject, it is to be feared, has not received the attention in text-books and from teachers of obstetrics that its moment deserves. I have tried to outline fairly the course that cancer of the uterus, complicated with pregnancy, has taken in the past, in order that we may come to a clearer conception of our duty to these cases in the future. These statistics show we cannot afford to wait for emergencies, abortion, septic infection to arise, if we ever expect to reduce the fearful mortality of this dreaded condition.

Were the gentlemen of this section called upon to state their individual preference for treatment of these cases in two words, I am confident the larger number of replies would be

¹ Read at meeting of the American Medical Association, Detroit. 1892.

vaginal hysterectomy, rather than high amputation, total extirpation, or partial excision. I hold that, unless exceptional circumstances are present, total extirpation in operable cases should be the rule, and the operation done at the earliest moment.

So far as the treatment goes, cancer of the cervix uteri, associated with pregnancy, may be classified in three series :

(1) Cases where the disease is confined to the uterine tissue ; no infiltration in vagina, bladder, rectum, or broad ligaments, and uterus has not reached a size incompatible with vaginal hysterectomy, say up to end of fourth month of pregnancy.

(2) This series comprises all cases presenting the features of first series, except that removal of uterus by vaginal hysterectomy, because of late period of gestation, after beginning of fifth month, is precluded.

(3) This series comprises all cases at any period of gestation where total extirpation is impracticable.

In the management of first class, associated with early pregnancy, abortion, either accidental or induced, has already been shown to be surrounded by many dangers, although successfully employed by a few operators, as a preliminary to vaginal hysterectomy.

High amputation of the cervix, in the majority of these cases, brings about abortion, and is even less successful than in the non-puerperal uterus, in regard to final cure.

Allow me to illustrate by the following case, from my own practice, the management of a case of the first group.

Mrs. A. H., aged 27, native of the United States, housewife by occupation. Family history good. Menstruated at 13, married at 15, has

three children aged respectively 10, 7 and 5 years, one miscarriage between second and third. One year ago menstruation became more profuse and frequent. Family physician, Dr. Smythe, diagnosed carcinoma of cervix, which I endorsed, upon careful examination, with possibility of pregnancy. The latter, patient thought impossible, as none of former symptoms of pregnancy had presented. I found a cauliflower-like excrescence protruding very uniformly from anterior two-thirds of cervix, not particularly sensitive to touch, but having a hard, indurated base. Body of uterus enlarged to size of small orange, pelvis apparently healthy, no infiltration of vaginal walls.

Operation for vaginal hysterectomy performed September 30, 1890. Uterus found somewhat larger than mapped out in previous bimanual examination. Specimen, after removal, showed cervix entirely complicated in growth, body of uterus containing fœtus of about two and one-half months. Patient now in excellent state of health.

Microscopical examination of specimen showed cellular infiltration ; resembled closely that seen in schirrus of breast. Points of interest in this case seem to be as follows :

She had irregular menstruation for over a year—hæmorrhage, as it were—yet, when disease was pretty well advanced, she became pregnant. Would this fœtus have gone on to full time, could it have been delivered by abdominal section, and what would have been the mother's chances of recovery ? I would recommend same line of treatment to another patient similarly situated. There have been, including this one, sixteen cases of vaginal hysterectomies, before end of

fourth month, in which mortality was *nil*.

Briefly, the treatment of carcinoma of the uterus may be summarized as follows: In all operable cases, where the pregnancy is not advanced beyond the fourth month, do a vaginal hysterectomy at once.

In all operable cases, between fourth month and term, as a rule, complete extirpation of the uterus by Freund's method, as modified by Zweifel, and in operable cases delivery at term, or a supra-vaginal hysterectomy of pregnant uterus (Porro's operation).

The Diagnosis of Some Abdominal Tumors Supposed to be Ovarian.¹

BY JAMES A. GOGGANS, M.D.,
ALEXANDER CITY, ALA.

OUR text-books often lead one to believe that it is quite an easy matter to differentiate between ascites and abdominal tumors, and I have recently noticed that a few writers have, in referring to their series of abdominal sections, for various causes, stated that "no mistake in diagnosis was made in the whole series."

Now, my experience does not lead me to believe that the diagnosis of abdominal tumors is always such an easy thing to do. And I will make a few remarks on cases which have occurred in my experience which will serve to illustrate the fact that the diagnosis is often difficult, and, in some cases, indeed, quite impossible without resorting to an exploratory incision.

This specimen, which I hold in my hand, is a part of the remains of a cystic ovary and tube, removed from a patient 35 years of age. She was taken with pains in the pelvis after

having had her fourth child. This pain continued for two years before the abdomen began to enlarge, and at the time I saw her and removed the tumor, the abdomen was extremely large. She had been tapped three times and large quantities of fluid had been withdrawn. The cannula had been left in the abdominal cavity for three days, and a solution of iodine had been injected into the cyst which was supposed to exist. I recognised some obscure form of pelvic disease and opened the abdomen for its removal. Two water-bucketsful of ascitic fluid escaped from the abdominal cavity, when a cystic ovary as large as an orange was found floating in the pelvis. The cyst was ruptured in the attempt to bring it through the abdominal incision, the pedicle being extremely short. There has been no return of the dropsy, and the patient has made an uninterrupted recovery.

The following case was one of extreme interest, being the only case

¹Read before the Georgia State Medical Association, 1892.

which has ever recovered in America after operation, and perhaps the only one where operation was undertaken for exactly the same condition in this country.

Patient, 21 years of age, had been in bad health for two years, but her abdominal pains had existed only about eight or ten months. The abdominal enlargement was first noticed only three months before I first saw her. Her father and brother, both physicians, had made the diagnosis of abdominal dropsy, and upon my first examination I thought that I had to deal with an ovarian cyst. Upon further investigation, I recognized some obscure form of abdominal cyst which could only be elucidated by an exploratory incision. This was made, and the cyst proved to be one of the mesentery. The removal of the sac was impossible, consequently it was incised and emptied of a large amount of thin fluid, the incised lips drawn into the abdominal incision, a glass drainage-tube introduced to the bottom of the cyst and drainage kept up until recovery was complete.

The second specimen I show you is a multilocular cyst of the ovary. It was removed from a patient 45 years of age. The abdomen was quite full of ascitic fluid, and fluctuation in the cyst was very indistinct. In fact, the fluid in the cyst was only semi-fluid. The diagnosis in this case was almost impossible. From the fixity of the tumor it seemed to be a most unfavorable case on which to operate; but there was much distress, and as the uterine cavity was not elongated, and there were no other signs indicative of malignant disease, I consented to operate, with the results as I show you. The patient made a perfect recovery.

A few weeks ago I was asked to see a lady who had been told that she was pregnant, and the symptoms pointed very clearly towards pregnancy, the menses having ceased to flow quite suddenly. It turned out to be a dermoid cyst, which in all probability may have been solid originally, and very closely connected with the uterus. I must think that all abdominal surgeons who have much experience, encounter more or less difficulty in the diagnosis of many cases, and I believe that we should exhaust every means at our disposal to make a perfect diagnosis; but after doing all this, there are still cases where there is manifest serious abdominal disease, and our course is quite clear that we should not wait for a post-mortem examination to clear our way, but should boldly make an exploratory incision and give the patient a chance for life. I can recall cases sufficient to establish in my mind the fact, that many lives have thus been saved, which would, without exploratory incision, have been sacrificed.

I make it a rule to regard with surgical suspicion, all female patients who are invalids and suffer from incapacitating pains whether they have a tumor or not. If I cannot make the diagnosis perfectly clear, it in no way interferes with me, for I believe the way to duty is quite clear, and that the condition is an unnatural one, and demands an operation. I am not an advocate for abdominal section for mere symptoms, especially dysmenorrhœa and the neuroses, but am firmly of the opinion that we should always be able to put our hands on something that we know is pathological, and is causing serious symptoms before we subject the patient to such a grave procedure. The point I wish to bring

out in this paper is that it is altogether unnecessary to wait and try to map out all of the pathological condi-

tions that may be present in a given case before an operation is undertaken.

Interference in Delayed Labor.¹

BY DR. GEO. C. MOSHER,
OF KANSAS CITY, MO.

It is assumed, in this discussion, that there exists no mechanical obstruction or mal-presentation. In cases of simple lingering labor, while each must be studied as to its own peculiar merits, certain lines of treatment have been found to yield the best general results.

In the field of drugs the bisulphate of quinine in 15-grain doses is a reliable oxytocic, and phenacetine and antipyrin in 5-grain doses have each been proved efficacious. Belladonna, cocaine, etc., as local applications to rigid os, have been properly discarded as useless. Undoubtedly the most valuable agent of the materia medica in these cases is hydrate of chloral. Chloroform, in the second stage of labor, given to obstetric anæsthesia, is a great blessing to the parturient, but previous to this period it frequently retards labor, and its effect is harmful. The marked benefit of a hypodermic injection of morphine is well attested. It will either quiet the nerves racked with fruitless suffering, and thus yield a period of needed rest, or stimulate pains to a happy and speedy delivery.

The hot-water douche against a rigid cervix; changes of posture of

the patient; pressure over the abdomen, as advocated by Zweifel, have, when intelligently used, proved procedures worthy of endorsement.

Ergot is never to be advised previous to the expulsion of the placenta, the evidence that its harmful effects are far greater than any probable good, being so clearly established as to admit of no discussion.

A plea is made for conservatism in the use of the forceps in these cases, since not only have the recruits in the fruitful field of gynæcology been largely drawn from the lying-in chamber, but the neurologists are claiming to trace imbecility, paralyses, etc., to the pressure of the blades on the foetal head. Still conservatism and not timidity is advocated. The case of the unhappy labor of Princess Charlotte, of Wales, is cited, where, after the head had lain nearly upon the perinæum for forty-eight hours, death occurred from exhaustion, so great was the objection to use of the forceps. A modern obstetrician would have much earlier terminated the case successfully, and thus given to Great Britain an entire change of dynasty.

No new theories are advanced, and the purpose of the paper will be accomplished if it succeeds in drawing out the consensus of opinion of the

¹Abstract of paper read at meeting of American Medical Association, Detroit, 1892.

members who are interested in this branch of our art. The idea of the discussion was suggested by the very diverse views expressed by prominent obstetricians at the British Medical

Association at the Birmingham meeting, 1890, when Dr. Playfair, the distinguished authority, read a paper upon a similar subject.

The Relation of the Duration of Gestation to Legitimate Birth.¹

BY T. RIDGWAY BARKER, M.D.

THE author in discussing this subject called the attention of the profession to the unjust censure which was heaped upon mother and child by the public, owing to the prevalent idea among the laity that the duration of gestation was a fixed term, limited to nine calendar months. Should the unfortunate young bride be delivered of a mature infant in some 255 days after the disappearance of her last sickness, society and even the court, if misinformed by ignorant "expert" testimony, might readily bring in a verdict of unchastity and moral illegitimacy without the slightest warrant. In the report submitted of forty-two cases of gestation, marked by unusual brevity or undue length, the question of legitimacy did not enter, as they were all married females in good standing. Since conception was not co-incident with insemination, the writer stated that there must always be an element of uncertainty in calculating the date of confinement. Löwenhardt's observations were cited as going to prove that though impregnation followed a

single coitus in two women the same number of days after menstruation, yet there existed no absolute correspondence as to the date of their confinements. The variability in the duration of gestation it was shown was not due solely to the difference in the time of conception, but in a great measure depended upon the rapidity of embryonic growth. This fact could not be doubted when one continually meets with women who had been delivered of mature infants after carrying them for only 242 days, while another's term consumed some 323 days.

Schroeder was quoted as saying: "I do not doubt for a moment that a mature child can be born in 240 to 320 days from the last period." The writer pointed out the danger to society which lurked in the mistaken notion as to the duration of gestation, showing how readily it might become the rock on which marital trust and confidence would be wrecked. With reference to the cases reported, there were three sets of twins as follows: Case No. 1, two females, gestation 274 days; Case No. 8, male and female, 265 days, while Case No. 15, two females,

¹ Abstract of paper read at meeting of American Medical Association, Detroit, 1892.

was only 242 days. The mothers' age would seem to have no determining effect upon gestation, for of the forty-two cases reported, seventeen were over thirty years. Twenty-seven were marked instances of brevity of the gestation period, varying from 242 to 274 days, while in the remaining fifteen cases duration 289 to 323 days.

Between 290 and 323 days there were twelve cases, and over 300 days six cases. In twenty-one cases there were fifteen normal placentæ and six battledore. One fact of interest pointed out was the tendency for the same number of days, to repeat

themselves, thus four females were confined on the 265th day, four on the 266th, and two on the 307th day. When we realize these great variations in the duration of gestation can do we otherwise, asks the writer, than exclaim with Jaggard, "The real duration of pregnancy is an unknown quantity!" The question of legitimacy was not to be decided solely according to the length of gestation, nor the size, weight or development of the foetus, but should represent "the sum of all the circumstances having a direct bearing upon the case."

International Periodical Congress of Gynæcology and Obstetrics.

ADVICE just received indicates that the Gynæcological and Obstetrical Congress, to be held in Brussels from September 12 to 19, is sure to be a great success, most of the prominent gynæcologists of Europe having signified their intention to be present or to send a paper to be read. About twenty-five of the most noted gynæcologists of America will attend. The

King of Belgium is taking a special interest in this Congress, and will be personally present at its dedicatory exercises.

Any medical gentleman wishing to attend may receive all the information necessary by addressing the American Secretary, Dr. F. Henrotin, 353 La Salle Avenue, Chicago, Ill.

TRANSLATION.

The Pathology and Treatment of Puerperal Osteomalacia.

BY PROF. FEHLING,

BASEL.

[Reported.]

THE speaker alludes to the uniformly bad prognosis which has been made in grave cases of osteomalacia. The majority of these patients died as the result of the obstetrical operations rendered necessary by the deformity of the pelvic or other structures, or from the development of chronic cachexia connected with the disease. The turning-point in the treatment was established by the Sectio Cæsaria according to Porro.

The rapid improvement in severe cases of osteomalacia after removal of the uterus and the ovaries soon led to the thought that possibly such cases might be benefited by the same operation even in non-gravid patients, from the hope that by abolition of the reproductive function there might also, in these cases, be induced a tendency toward recovery.

From this consideration the speaker had been led to perform castration in cases of severe osteomalacia. The operation was done in nine cases. One patient died from intestinal stenosis; the other eight made a rapid and uneventful recovery and are all now well. The ages of the patients subjected to the operation were from 28 to 51 years. Most of them were women with numerous children, who had suffered much for years, from pain

and the other indications of the malady. The longest duration of the disease was thirteen years. Observation of these cases, together with that of several cases not operated upon, demonstrated the necessity of further investigation into the obscure features of the ætiology of this disease. Examination of the urine by others has rendered now a positive, now a negative result; and subsequent confirmatory examinations have not been productive of any material assistance, nor do the researches of others promise useful results in this direction. The examination of the blood of the patients affected, in relation to bacterial invasion, yielded no positive information, although the speaker himself was formerly inclined to believe in the infectious nature of the disease. He has radically changed his opinions upon the subject since the results of the operation have become established facts.

The diminished alkalinity of the blood, which was first observed by Jaksch, was demonstrable in a few of these cases; in others it could not be proved. The blood was materially reduced in alkalescence in the cachectic cases, as was also notably observed by Jaksch, in his studies upon the alkalinity of the blood in acute and in

chronic cases in general, among patients who were much reduced by the severity of the disease. It is noticeable that, in the cases operated upon, there was no perceptible change in the relative alkalinity of the blood after the operation, during gravidity or upon those who were not pregnant.

The factor of the cure in these cases cannot possibly be assigned to the induction of sterility in the cases operated upon, but it would seem that the effect was due to the cessation of ovulation, for among the cases operated upon were some who had not been pregnant for four to eight years, and who were entirely cured by means of castration.

The speaker considered the following points to be of the greatest importance for a proper understanding of the disease :

(1) The gradual or intermittent aggravation of the disease during menstruation.

(2) The surprisingly rapid diminution of pain in the affected parts immediately after the operation, in which the pains in the ribs and the sternum are relieved before the pain in the pelvis subsides.

(3) The enormous vascularity of the extirpated uterine adnexæ, with dilatation of the arteries and veins, such as is observed in pregnancy or in cases of fibro-myomata, indicate that in this feature we may find a causal element in the history of the disease. Heretofore, the macro- and microscopical examination of the follicles and connective tissue of the ovaries has not been productive of tangible results, but much may be hoped from study of sections of the entire structure.

(4) The enormous fertility of the women among the cases of osteo-

malacia reported by the speaker, which

equals	5.4
Baumann	6.8
Rosentraeger	8.2 (Osteomalacia and Cæsarian section).
"	3.7 (Other Cæsarian sections).

The average fertility in Germany (3.9) indicates also an increased functional activity of the ovaries among German women. Even after the appearance of the disease, the prolongation and increase of fertility is remarkable.

The speaker, therefore, believes that the *essence* of the disease under consideration comprises a pathologically increased activity of the ovaries. Nasse has observed a diminution of the organic substance of the bones after section of the sciatic nerve. It is not difficult to imagine a dilatation of the vessels of bony structures so nearly related in location to the ovaries, as the result of reflected irritation and dilatation from affection of the ovarian structures. The result of this is a hyperæmia of the bony structures from vascular stasis, with the result of absorption of more or less of the calcareous substance of the bone and the softening of its structure.

The operation of castration relieves the irritation of the vaso-dilator nerves, thus promoting contraction of the vessels of the bones and leading to cure of the disease. The speaker, therefore, considers osteomalacia as a *trophoneurosis of the skeleton* or the *bony structures of the body*, and holds that it is analogous to struma and morbus Basedowii. He hopes for further light upon the ætiology of the disease from further successful operations, either after the plan of Porro or after simple castration.

ABSTRACTS FROM CURRENT LITERATURE.

BY S. P. COTTRELL, M.D.

General Results of Removal of Tubes and Ovaries.

DR. WHARTON SINKLER has given some interesting facts as to the effect of the removal of these organs. In the first place, he claims it unjustifiable to remove these organs for the relief of neurasthenia and hysteria where marked disease is not found. It is an undoubted fact that cases of neurasthenia have been cured where even structural changes in the ovaries have taken place. And again, it is the fact that patients are, in some cases, more nervous after than before operation. It is claimed that cures have resulted in epilepsy and insanity,

particularly in those cases associated with pain and aggravation of symptoms at the menstrual period, and, as well, these diseases have followed operations. Gain in flesh is marked only where the operation has been performed for pus tubes, etc. Growth of hair on the face, change of voice and acquirement of masculine traits very rare. Sexual appetite and faculty for the enjoyment of same unchanged. Thought it must be said that in time (years) it seems to diminish, which may be by the natural result of age.

Catgut in Abdominal Surgery.

THE question as to the preparation of catgut and the results of the same on the spot, is an interesting one, being, as it is, one of the cardinal points of aseptic abdominal surgery. The method in use at the Woman's Charity Club Hospital, under the service of E. W. Cushing, M.D., and also at his private hospital, is as follows: Selection having been made of the desired size, the catgut is placed in ether to remove all fat. From the ether it is put on a stretch to remove all kinks and twists; cut into proper lengths and placed on the glass

holder. It is put in the baker, where, at a temperature of 150°, it is kept for two hours. At the end of that time, after having cooled, it is placed in a solution of alcohol and glycerine (1-10). It is customary to use it directly from the solution. The strength is not impaired, knots do not slip and stitch-hole abscesses are decidedly uncommon. In fact abscesses, directly traceable to the ligature, are not seen. The use of the gut is rather limited to internal work, the skin stitches being done in silk, which has only undergone the baking.

Appendicitis.

At a recent meeting of the Clinical Society of Maryland, reported in the *Pacific Record of Medicine and Surgery*, Dr. Finly read a paper with this title, and in the discussion interesting points were developed. Dr. W. S. Thayer gave instance of 1,000 cases collected in Munich, where analysis proves the disease as common in females as in males, and even more so. Age seems not to be a factor, the proportion being about the same. Advises early operation, within twenty-four hours if possible. Dr. J. D. Blace approves of early operations, and thinks well of Dr. Finly's idea of combining typhlitis, perihyphlitis and appendicitis under one head, being seldom able to tell one from the other. Has often aspirated and withdrawn pus with good results. The use of the aspirator rarely causes trouble.

Dr. J. F. Martinet has met with a number of cases which, as a rule, came on with acute pain. One case suppurated into bowel and got relief. Has had a third attack and was operated upon (nature of operation not given). Dr. J. W. Chambers claims the statistics to be faulty. A person may have three or four attacks and recover, and these are reported as cases cured, and as well, continuing, he says that appendicitis has often been

diagnosed by gynæcologists as "pelvic cellulitis" and "salpingitis." "In a large number of cases the appendix is really a pelvic organ, and being inflamed it will certainly be a case of salpingitis with some gynæcologists." Would hesitate to use the needle, and judges cases relieved rather than cured by this means. Finding pus would cut down and remove it.

Dr. Ingly advised surgical treatment, the use of salines and rectal injections bringing no relief.

Dr. Thayer was of the opinion that many cases of appendicitis in the female were missed by faulty diagnosis; salpingitis, etc., being given as the disease.

Dr. Martinet recalls two cases, both females, 5 and 10 years.

Dr. Blace endorses Dr. Finly's grouping, and advocates the use of the aspirator where there are indications of pus. In no case have bad symptoms resulted. Dr. Finly, in ending the discussion, said, being pus cases, home as well as hospital will serve as place for operation, and agrees in the use of the aspirator. The indications for the use of the needle, other than as a means to a diagnosis, is only a proof of the more positive indications for the use of the knife.

Hysterectomy in a Child.

DR. E. H. BRADFORD reported before the Obstetrical Society of Boston (*Boston Medical and Surgical Journal*) a case of supravaginal hysterectomy in a child. Of a sarcomatous nature,

ovarian in origin and of exceedingly rapid growth, it had so involved the uterus as to necessitate the removal of that organ in the extirpation of the growth.

Treatment of Fibroids.

DR. JOHN HOMANS, in a paper read before the American Surgical Association (*Medical News*), on fibroid tumors of the uterus, gives, as the definition of fibroids, "aggregations of normal uterine tissue in abnormal situations and masses," and divides the growths into dense, or œdematous, or filled with lymph spaces, which in time may become dilated and be mistaken for true fibro-cystic, which are extremely rare. In a series of 520 cases only eight were diagnosed as fibro-cystic. Of these all were operated upon, and all but one died, the adhesions in these cases making it impossible to separate the tumor from the intestines. In regard to growth, it takes several years for one to become as large as a fist. The black race are more predisposed to these growths than the white. Of the 520 cases only sixty were operated upon. As a general rule, about ten per cent. demand operative interference, and the indications calling for this come from the sense of discomfort in the way of pressure, etc., or, in young women, from a sense of shame on account of appearances. It is almost never that a fibroid causes death from hæmor-

rhage. As a rule, those which, from size, existing in a woman at full term, would seem to absolutely impede delivery, they are in some way taken care of. Nature, in her efforts, lifts them out of the way. The question of treatment lies between several plans: To leave them alone and wait for the menopause, when they usually atrophy; to remove them by the one operation (hysterectomy); or to take away the uterine appendages. The Apostoli method, while it may relieve pain, has no effect on the growth. The removal of appendages, though attended with a degree of success, is unreliable. The other two plans are governed by symptoms. Curetting the uterus has cured hæmorrhages, but has no influence on the tumor. Drugs are useless. On the point as to treatment of pedicle Dr. Homans gives no opinion upon, simply describing the different methods in use, and allowing the operator to choose for himself. Ventral hernia is a troublesome sequela, and occasionally insanity follows. Tetanus has resulted, and uncomfortable hot flashes at times give uneasiness, and, in a while, patients grow very fat.

Antiseptic Powder.

IN regard to the use of antiseptic powder in abdominal work as a dressing after closure of wound, an editorial in the *American Gynecological Journal* calls attention to aristol as a dressing to take the place of iodoform, which, for many reasons, though it serves its purpose, is objectionable. (Aristol is, however, expensive, and in the Woman's Charity Club Hos-

pital, as well as in private work, attention has been given to a preparation called "Compound Antiseptic Powder," which has all the good qualities of aristol, with the extra one, of being much cheaper. It is composed of iodide of thymol and salicylate of magnesia. It can be used in any quantities, and so far has been found free from ill results of any kind.)

Cancer of the Uterus.

THE realization of the importance of early examination in uterine troubles is daily gaining a stronger hold on the medical mind, as evinced by the following:

"Only a small proportion of the patients with cancer of the uterus are suitable cases for a radical operation (about twenty-five per cent.), and if one-fourth of these are cured, it follows that only seven per cent. of the entire number of cancerous patients are cured. In other words, the diagnosis of malignant disease is not made at a sufficiently early stage, and this neglect is traceable to the general practitioner. 'The physician to whom the patient first applies, decides her fate in the majority of cases.' Hence it is extremely important that he should be familiar with the initial symptoms. Of these a watery vaginal discharge is the most constant, especially in carcinoma of the portio. Menorrhagia, in a patient whose flow has formerly been normal, should always awaken suspicion and lead to an examination. Hæmorrhage after coitus is an initial symptom of great importance, and when occurring some time after the

establishment of the menopause it is almost pathognomonic of malignant disease.

"Pelvic pain is usually a late symptom, due to secondary parametritis; but intractable sciatica, developing after the menopause, is significant. When a patient with these symptoms applies to her physician, she ought certainly to be examined, and if the portio does not present a suspicious appearance, search should be made for cancer higher up in the cervix or corpus uteri. Fragments should be removed for microscopical examination. Patients themselves are often to blame, since they defer seeking professional advice until too late, because they have no severe pain, the irregular hæmorrhages being attributed to the approaching change of life. It is a peculiar fact, that women who have cancer are less likely to fear it than those who have not. In conclusion, the writer urges that both physicians and patients should be trained to recognize the initial symptoms of cancer of the uterus, and to have the diagnosis settled at once."—*Journal Gynecology*.

A Method of Curing Chronic Gonorrhœa.

THE importance of absolute cure in chronic clap or gleet, not the dangers liable to arise from it where the unsuspecting bearer gives to a woman a well-developed case of gonorrhœa, is recognized by Dr. A. C. Rochy when he devised the instrument for curetting the urethra. It is shaped like a steel bougie. There are fourteen holes run at an angle of $-^{\circ}$,

sharp on the upper and dull on the under edge. Anæsthetizing the urethra by cocaine the instrument is inserted and withdrawn a number of times. When the whole surface has been rubbed even, the clap-strings are thus removed. After-treatment consists in the use of a ten per cent. solution of silver, using daily a grain less in strength.

The Relation of the Os Uteri to Sterility in Woman.

S. V. Cottrell, in *Journal of American Medical Association*. January 23, 1902.

UNDER the above title Dr. S. R. Vanderveer, in a paper read before the Kings County (N. Y.) Society, after giving Dr. Duncan's statistics on the comparative fertility of the human female, increasing gradually from the child-bearing period up to thirty years of life, and then still more gradually decreasing, and also that the period after the climax is greater than the period preceding, continues by saying, quoting Dr. Maurice Simes, that conception must follow where healthy male and female ovum come together under proper condition. The questions naturally follows as to the means to this end. The author drops all other consideration, confining himself to the uterine

canal. In his opinion the os externum is most at fault, and advocates the use of dilators rather than the knife, and where much pain is present directs the use of tinct. belladonnæ smeared on the blades of the dilator; where the os is occluded by one of the lips then the removal of so much of the lip as necessary, in order to make the canal patent, is indicated. Cases are given where conception in previously sterile women followed the operation. The instrument used is shown by a wood-cut in the *American Journal of Obstetrics*, Vol. vii. page 244.

The new United States Pharmacopœia will have all formulas expressed in metric terms.

Foreign Bodies in the Stomach.

DR. H. F. KENDALL, Meridian, Mass., reports four cases of foreign bodies in the stomach. A common cockle-bean, large tack, breastpin, and a three-inch screw, all of which were passed by the rectum, under the ad-

ministration by the mouth of large doses of mucil. acacia. The objects being coated with the gum, thus producing no irritating results on the intestines. Active cathartics produce, he thinks, too active peristalsis.

Laparotomy under Cocaine.

Journal of American Medical Association.

DR. Amory Lamphear gives an account of a gastrostomy (cancerous tumor, left side of neck preventing deglutition) under cocaine; one-half dram of a 4 per cent. solution was injected into the subcutaneous alveolar tissue, along the line of the proposed incision.

The operation lasted twenty minutes and was not accompanied or followed by any ill results; no shock and no sense of pain or discomfort, other than slight nausea when the edge of the liver was turned up.

Suprapubic Aspiration Followed by Death.

ASPIRATION of the abdomen, which, in general, has been considered an operation free from marked danger, is not always so, as shown by a case reported by Dr. Frank D. Sanger (*Medical Standard*), where aspiration of bladder, in a man of 75, was followed in sixty-two hours by death due to peritonitis. This is supposed to be the first fatal result following the use of the needle.

Many cases are, however, reported in the operation of puncture. In 1877, Deneffe and Van Watke published a collection of 152 cases of suprapubic puncture, with six deaths and eighty-seven of rectal puncture, with eleven deaths.

Dr. W. P. Chunn advises sticking close to the bone, thus avoiding the peritonæum.

Conservatism in Ovarian Surgery.

THOMAS (*New York Medical Record*), reports an interesting case of a woman, three years married; sterile, with severe pain at menstrual periods, etc. Median incision revealed small cysts of right ovary, and larger cyst of left side between broad ligament and ovary. Smaller cysts were punc-

tured and the larger cyst enucleated. The edges of the broad ligament being brought together with fine catgut. The tube, which had become detached from the ovary, was reunited by means of small gut, and the organs returned to the abdominal cavity. Recovery and painless menstruation.

GYNÆCOLOGICAL THERAPEUTICS.

CYSTITIS IN WOMEN.

R. Citrate of potassium	℥ss
Fl. ext. of triticum repens	
Tinct. of belladonna. each	℥i
Fl. ext. buchu	℥ss

Water add to make four ounces.

SIG.—A teaspoonful in a wineglassful of water three times a day.—*Journal de Médecine de Paris*.

EMMENAGOGUE.

An excellent emmenagogue is given in the *Medical News*, Cincinnati, as follows:

R. Hydrargyria bichloride	
Iodii arsenitis	aa gr. iii
Strychninæ sulphatus	gr. ss (½)
Potassii carbonatis	
Ferri sulphatis	aa gr. xlv

M.—In pilulas lx divide.

SIG.—One pill after each meal.

RIGID PERINÆUM.

R. Chloriformi	
Ætheris sulphatis	aa ℥ii
Lislerine	℥i

SIG.—Apply locally.

It acts quickly and well.

HYSTERIA.

For hysteria in a young woman, aged 18 years. Prof. Da Costa prescribed:

R. Zinci valerianat	2 grains.
Ferri valerianat	1½ grains.
Ext. belladonna	1-16 grain.

M. SIG.—One pill three times a day.

The patient should also be given tonics, have a full meat diet, and take exercise in the open air.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Special Meeting of June 16, 1892.

THE PRESIDENT, DR. W. H. H. GITHENS, IN THE CHAIR.

DR. B. F. BAER presented the specimens and reported the following cases of fibroid tumor of the uterus:

MULTIPLE FIBROMATA UTERI; REMOVAL OF OVARIES AND TUBES; CONTINUED GROWTH OF TUMORS. (See page 660.)

A CASE OF PRIMARY PERITONEAL PREGNANCY; SECTION FOLLOWED BY RECOVERY. BY WILLIAM EASTERLY ASHTON, M.D. (See page 667.)

DISCUSSION.

DR. CHARLES P. NOBLE:

We are indebted to Dr. Ashton for the report of this case, for cases of primary peritoneal pregnancy are extremely rare; indeed, some authors, headed by Mr. Tait, deny that there is any such thing as primary peritoneal pregnancy. I think the evidence is clear that most cases that have been reported in the past as primary peritoneal pregnancy, are at least open to question: but there is certainly one case for which, personally, I cannot see any other explanation that is the well-known case where a fibroid tumor was removed by supravaginal hysterectomy, some of the cervix being left, and where afterward the woman became pregnant, the pregnancy being in the peritoneal cavity. We have to assume in that case one of two things, either primary peritoneal pregnancy or that in some way the spermatozoa got into the Fallopian tubes, that tubal pregnancy resulted with subsequent tubal abortion. That supposition is so far less probable than that of primary peritoneal pregnancy that we must accept this as at least one case of such pregnancy.

The points of the paper, while very well put, leave us in some doubt as to the exact location of the sac. The procedure that was adopted for the control of hæmorrhage, inasmuch as it controlled it, was exactly what was needed in this case. It would depend upon the source of the vascular supply of the

sac whether or not more should have been done under the circumstances. If the supply were from the broad ligament, a ligature including the ovarian artery, and a second around the uterine artery might have been of great service. This would depend upon the fact whether the supply of the sac came from the broad ligament or from some other portion of the pelvis.

I would not criticise the course of action in this special case, as every one must judge of the indications in the individual case, but in general I think that it is wise, as shown by the results, that, where it is possible to remove the entire sac, placenta and all, it is proper to do it unless in the individual case there is some contra-indication. The results of this method in the hands of Fritsch and others have been very good indeed.

DR. WM. E. ASHTON:

I have little to add, except with reference to the location of the sac. The sac was on the left side, posterior to the broad ligament. All I saw of the sac was the anterior portion of the broad ligament. Posterior to that were matted intestines. With one finger in the sac and the other external to it, I felt nothing but bowel, except anteriorly. As far as I could make out, the placenta was attached at the bottom of the cavity and more toward the intestines than toward the broad ligament. Ligation of the broad ligament would have been impossible without impinging upon the gut. If I had tried to control the hæmorrhage in this way, I should certainly have included intestine. The method spoken of by Dr. Noble is an excellent one, but in this case it was impossible to employ it.

I agree with him that the placenta should be removed where it can be done. It makes a better operation. Here, in order to remove the placenta, I should have had to disturb its attachments to the intestines, and it would have been impossible to control the hæmorrhage.

UTERINE CANCER. BY J. M. BALDY, M.D.
(See page 665.)

THREE CASES OF EXTRA-UTERINE PREGNANCY; LIGATION OF URETER. BY GEO. ERETY SHOEMAKER, M.D. (See page 652.)

DISCUSSION.

DR. CHARLES P. NOBLE:

I wish to say a few words with reference to the case of cyst of Morgagni. Dr. Baldy incidentally brought up the question of cystic ovaries. With reference to the operation in this case, if the tube and ovary were healthy, I see no occasion for their removal. The cyst could have been removed without disturbing the tube and ovary. Personally, I do not agree with the statement that all cystic ovaries are healthy. I think that many of them are far from healthy. Many are diseased. Many are the seat of chronic ovaritis and are extremely painful ovaries. I do not think that they are painful because of the presence of little cysts. Many of these ovaries are so far from healthy that the patients will not be well so long as they remain.

A word in regard to the uterus, in which Dr. Baldy raised the question as to the presence of cancer. Judging from the gross appearances, the uterus is not healthy. The walls are hypertrophied and the endometrium is thickened. As regards adenoma or cancer, it makes little difference, as both are malignant and will kill, but one will take a little more time. The advantage of operation in adenoma is that the danger of recurrence is much less than in carcinoma.

With reference to the use of clamps in hysterectomy, I have had the same experience as Dr. Baldy. The first time I used the clamps the broad ligament slipped and it was necessary to ligate it afterwards. It was a tedious and bloody operation. Since then I have used the ligature and like it very much.

In regard to the case of extra uterine pregnancy reported by Dr. Shoemaker, in which he discusses the question of what takes place with the blood left in some of these cases, I think that in not a few cases the blood is absorbed and the patient gets well. I do not think, however, that we are justified in not operating, because the probability of recurring hæmorrhage or suppuration is too great. The chances of the patient are infinitely

better, other things being equal, if operation is done. I have seen several cases of extra-uterine pregnancy, or at least where there was every reason to believe that there was extra-uterine pregnancy, in which, because of the condition of vital organs, it was deemed inadvisable to operate. I saw such a case last summer in a woman with consumption, who had just gotten over an attack of acute nephritis with suppression of urine. She was at the time passing a small quantity of urine, with casts and albumen. She had an extra-uterine pregnancy and a large hæmatocele. I was so certain that she would die if operated upon, that I advised delay and non-operation unless suppuration occurred. I have seen her again within a week. She now feels quite well and says that she cannot now feel the hæmatocele. I have seen one or two other cases of a similar character, in which the patients chanced not to die from recurring hæmorrhage or suppuration of the hæmatocele.

I was much interested in what Dr. Shoemaker said about hæmatosalpinx. It is time that we had a general understanding of what we mean by that term. The same term is used when there is fluid blood or when there is a clot in the tube. Recently there has been an attempt by Bland Sutton to limit the use of this term to cases in which there is a blood-clot in the tube. I do not know what authority he has for this beyond his own desire, but I think that it is desirable that every one should have the same understanding as to what is meant by the term.

In the case of death from so-called shock, it seems to me that it was not a death from shock at all. The symptoms of shock are subnormal temperature, cool skin, rapid, feeble pulse and other signs of heart-failure. None of these were present in this case, and I, therefore, think that it could not properly be called a case even of so-called shock. I have seen several deaths from suppression of urine following section and one following a plastic operation, and the symptoms were very similar to those mentioned by Dr. Shoemaker. I think that they were clearly the symptoms of uræmia. However, I must state that coma supervened in my cases before death took place.

DR. JOSEPH HOFFMANN:

In regard to cystic trouble in the ovary, I

think that it is a matter of great difficulty to tell just when an ovary is diseased, even when we have a chance to handle it. Probably the safest rule of procedure in all uterine trouble is that where we have well marked disease of the uterus, to presuppose ovarian disease and act on that view. Where there is well marked uterine disease, there is apt to be ovarian disease. I would recall to Dr. Baldy a case in which he did hysterectomy, and left the ovaries because he thought that they were not diseased. In a year he had to reopen the abdomen and remove a large ovarian cyst.

About the frequency of cancer of the uterus. Two years ago, at a meeting of the Obstetrical Society, Dr. Price questioned the frequency of cancer of the uterus in Germany, where the greatest number of operations had been done for their cure with the best results apparently. The argument against this was, that here so many cases known to be cancer fail utterly to be cured by hysterectomy. The probability is that in every suspicious case they regard the presumption as in favor of cancer and remove the uterus, and the case is put down as one of cancer cured by operation. There is no reason why the results here should not be as good as abroad, if the pathological conditions are the same.

Dr. Shoemaker, in speaking of his third case, says that the symptomatology was perfect. There is nothing perfect in regard to the symptomatology of ectopic pregnancy. There is one other condition to which I have called attention which simulates this perfectly. This is tubercular disease of the ovary. The symptomatology is perfect. You will discover a mass, there may be pulsation in the mass. The breast will be enlarged and may contain milk. There will be vomiting. There will be suppression of the menses. There will be acute pain simulating rupture. So one by one you may take the symptoms of ectopic gestation and have them duplicated by this entirely distinct affection.

In reference to ligature of the ureter. I cannot understand how you are going to tie the ureter by ligating the broad ligament. The ureter does not lie in the broad ligament. In order to tie the ureter under such circumstances, you must suppose an upheaval of the floor of the pelvis. If there is hæmorrhage, granting that it does not come from

the placenta, it can be controlled by ligature of one or both of the arteries without going into the floor of the pelvis clear down to the neck of the uterus, where the ureter approximates it very closely. Where there is a large uterus I have had no trouble in arresting the hæmorrhage by tying closely. It is not unusual in these cases to find the whole tube much diseased, necessitating putting the ligature on the uterine structure itself. This was notably so in a case on which I operated. The rupture was clear down in the cornu of the uterus, and the woman bled to death almost under our hands.

In regard to waiting. If the tube has been the seat of one hæmorrhage, it is prone to a second or third. That was the case in the last ectopic pregnancy that I saw. The first attack was followed by a second and a third, and she died in the third attack while I was waiting for a consultation. The argument of Freund that many of these cases get well of themselves, is an argument that does not prove anything, for it disregards the fact that the hæmorrhage is often repeated. The danger of hæmorrhage is perpetual, and the patient is never safe.

DR. B. F. BAER:

I learned in my first vaginal hysterectomy to mistrust the clamp, and have not used it since. A perfect operation includes the removal of the ovaries and tubes with the uterus, and this cannot be done if clamps are employed. There is also more danger of hæmorrhage by this method. I believe that the best method of removing the cancerous uterus is by first ligating the uterine arteries from below, separating the vaginal attachments and then making a short hypogastric incision, after the method which I described several months ago. The advantage of operating from above is that you can remove the ovaries and tubes, and any diseased portions of the broad ligaments. The operation by ligature is the better method, whether the operation is done from below or above, or by the method which I prefer—a combination of both.

I was surprised to hear Dr. Baldy say that he considered cancer a general or blood disease. I believe in the local origin of cancer, and am sure that it is wise to teach that it is a local disease, for we will then be more apt to treat it locally by operation as soon as the

first signs of cancer appear. Even if we are not *absolutely* sure that the case is one of cancer, I think the patient is safer if the uterus is removed. The specimen which I presented to the Society a few months ago, and which was referred to a committee because of an expression of doubt as to its cancerous nature, was examined microscopically, with negative result. The walls of the uterus were much thickened and looked not unlike sarcomatous disease. There had been a large cauliflower-like growth removed from the cervix of this patient a year before by the high amputation, and the symptoms, as watery discharge and hæmorrhage, had returned. I feel sure that this woman is safer with the uterus removed. I have heard from her through her physician within two weeks, and he reports that she is perfectly well, having regained her lost flesh and become ruddy in appearance. She is very grateful for the operation.

I think it would be unfortunate to go back to the old idea that cancer is a blood disease, and to teach that it will certainly return at its original location or somewhere else, if removed. Of course if the disease has involved the tissues outside of the uterus, operation will prove futile. Let us teach that the disease can be cured if removed early and then cases will apply earlier for advice, when an effort should be made to arrive at a correct diagnosis.

Diseased ovaries, when due to hæmorrhage into the Graafian follicles, to such an extent as to produce the condition known as ovarian hæmatoma, should be removed. They cause intense suffering and there is no other means of relief. I, to-day, removed the right ovary from a girl 18 years old, on account of this condition. She had been a great sufferer since puberty, and her physician, her mother and the patient herself were all anxious to have the organ removed, after I had stated the nature of the disease. There was a hæmatoma as large as a hickory nut, the remainder of the ovary being in a state of multiple-cystic degeneration. I have operated on a number of these cases and always with success. The result is really brilliant sometimes in the relief that is afforded the patient. In the simple multiple-cystic degeneration which is sometimes found, I do not know whether it is best to remove the organ or not. It is a good plan

never to operate, unless there is disease found to account for the symptoms.

DR. J. M. BALDY:

I am still unconvinced that we should consider cancer a local disease. If we take the statistics of cases of cancer removed by vaginal hysterectomy, we find that the large majority have recurred and the patients have died within three years. It is only the small minority that are living after three years without recurrence. It is claimed that there is so much doubt in the diagnosis, that it is fair to assume that a large proportion of those that do not recur, were not cancers. This uterus may be diseased, but there is no evidence, microscopical or otherwise, of cancer. It may be better to remove such a uterus on the suspicion that it is cancerous. I agree to that. It should be removed on the chance that it is a local disease, and if you get the disease at an early stage, the woman is much safer without it. The justifiability of the operation will depend upon the safety with which the mechanical procedure can be carried out. I do not regret that I removed this uterus, but merely state as a matter of interest that some uteri are removed for cancer when subsequently the disease proves not to be cancer. In the case on which I shall operate on Monday, the clinical history is typical, but the microscopical evidence does not uphold this theory. I have placed the matter before the patient, and she has chosen hysterectomy.

In regard to the removal of the tube and ovary with the cyst of Morgagni, I must say that I do not know why I removed them. I had a reason at the time, but I do not remember what it was. I did not remove the other ovary. I agree with Dr. Noble that, without other reason, it would be better to remove such a cyst and leave the tube and ovary. In speaking of cystic ovaries, I did not mean, as Dr. Baer supposes, hæmatoma or beginning ovarian cyst. I meant that common condition that we find of hydrops of the follicles. There may be, under that, cirrhotic disease, but that is another thing. I was referring to cystic ovaries themselves. Nine-tenths of these ovaries removed have never occasioned symptoms, and the operation is unjustifiable. Often, where there is this cystic condition, there is concurrent disease of the ovary, and the symptoms arise from that. If there are

other conditions, such as hæmatoma, there is a pathological condition which requires operation. It is in regard to these cases of cystic ovaries so often reported that I speak. It is this class of cases that bring opprobrium upon surgery. These ovaries should not be removed unless we have overwhelming evidence that they are the cause of the trouble. It is better to err in leaving them, than to err by removing them unnecessarily.

The plan of removing a small uterus, as practiced by Dr. Baer, is a very pretty one, and I had intended to try it before I saw Dr. Goodell operate with the ligature. The combined operation is an easy one. The only difficulty in removing the uterus is to secure the uterine arteries without catching the ureters. If the arteries can be picked up from the vagina, the operation is simplified.

In regard to the case reported by Dr. Shoemaker, I must say that I cannot see why the ureter should have been ligated. In hysterectomy, where the pelvic floor is lifted up and everything is high up on the tumor, I can conceive why it should be done. Under such circumstances I have seen the nœud placed around both ureters and the patient die. In such cases as that reported, it is not necessary to tie the ligament so low down as to catch the ureters, which lie in the floor of the pelvis. After the ligament is brought into view, it is a simple matter to put a ligature around the ovarian artery on each side.

In many cases of extra-uterine pregnancy where hæmorrhage has occurred, I believe that the blood might be absorbed and the patient recover. The only question is how are we going to diagnose that the last hæmorrhage has occurred. No one can say in the acute stage that the artery is not still bleeding, or in the chronic stage, that it is not going to again rupture, or that the site of the disease is not septic. If we accept the theory that ectopic gestation occurs in a tube that has lost its cilia, and as we know that the

most common cause of the destruction of the cilia is an infective process, and that after rupture we have a mass of blood-clot which will break down easily, it is easy to conceive that many of these cases will suppurate because of the presence of septic material received from the seat of the original disease in the tube. As a matter of precaution, I believe that these cases should be operated on, inasmuch as the operation is perfectly safe. I know of no death, due to the operation, in the hands of competent operators.

DR. GEORGE E. SHOEMAKER :

I used the term "so-called shock" because shock was the cause of death as given by the pathologist. I think that uræmia was one cause of death, though there was neither convulsion nor coma. The ligature which included the ureter was not used for the control of hæmorrhage. There was no hæmorrhage. There is no occasion to catch the ureter in ligating the ovarian or uterine arteries. After scooping out all that I could from the sac there still remained a roughened, ragged portion of its wall, and posteriorly was a large projection which I attempted to tie off. I might have done better by leaving it. It was while trying to get a ligature on this, that I tied the ureter. I report the case in order to refer to the symptoms which followed, and because I wish to report all my unfavorable cases and to study them carefully. I have studied the literature, but have been unable to find anything in regard to the symptoms resulting from ligature of one ureter. Many men state that the ureter is often tied. Dr. Goodell says that it is sometimes torn across, an accident which is usually not recognized during operation or after death. In my case the broad ligament was torn up by clot, and the ureter was perhaps displaced.

ELLISTON J. MORRIS, M.D.,
Secretary.

ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

CONDUCTED BY RICHARD C. NORRIS, M.D.

ORIGINAL COMMUNICATIONS.

The Life-saving Value of the Antiseptic Method.

BY JOHN H. PACKARD, A.M., M.D.,
OF PHILADELPHIA.

WHILE it is true that the antiseptic system has won general recognition, and has become an integral part of the practice of the majority of surgeons all over the world, it seems to me that the time has not yet arrived for its advocates to feel that their work is done. There still exists a tendency, partly due to the skepticism expressed by a few leading specialists, to regard it as a cumbersome method of attaining mere cleanliness, which alone is declared to be the condition on which the best results can be secured. And by many surgeons the whole thing is looked upon as a fashion, to which they conform in a perfunctory manner, without any profound conviction of its value. Others again believe in the principle, but think the methods are in a transition

state, and that much is yet to be done before they can be fully accepted. I regret to say that I know a few men who still practice surgery without any antiseptic precautions whatever.

Were the only claim of the antiseptic system that it insured or hastened the healing of wounds, or that it rendered operative interference safer, or that it prevented suffering on the part of patients—on any one of these grounds it would deserve the favorable consideration of surgeons, and its acceptance would be an imperative duty. But it does more than all this. There are cases in which it is the direct means of preserving life; without it a fatal issue would be inevitable.

Many instances of this kind have come under my observation; but one

which occurred to me last winter was of so striking a character that it seemed to me worthy of being placed upon record. For the opportunity of seeing it I have to thank Dr. W. Reynolds Wilson.

P. L., aged 3, a bright mulatto boy, was playing on the floor in his mother's room, when he ran a rusty needle into his left knee. He pulled it out and showed it to his mother, who saw that the whole of it was there. That night he was restless, and complained of pain. Inflammation ensued, with high fever, and Dr. Wilson was called in; he treated the case very judiciously, with rest, lead-water and laudanum locally, and appropriate constitutional remedies. The whole limb, however, became greatly swollen, the knee particularly; and extensive suppuration ensued.

On the 11th of December, two weeks after the injury, at Dr. Wilson's request, I saw the child. The swelling had advanced to the groin, fluctuation over the knee-joint and in the thigh was very marked, and the free lateral mobility of the leg showed the joint to be destroyed. The boy's general condition was exceedingly bad.

On the next day, December 12, ether was given by Dr. H. B. Carpenter, and the knee was freely incised, giving exit to an enormous amount of excessively foetid pus, with clots of blood and masses of necrosed fibrous tissue. A large drainage-tube was placed across the disorganized joint, the abscess having been washed out as thoroughly as possible with sublimate solution; the limb was dressed antiseptically and placed in a trough of binder's board.

During the following week the dressing was renewed daily, and compression made from above by very

careful bandaging, so as to lessen the extent of the abscess; the stimulant and tonic treatment already instituted by Dr. Wilson was continued and increased, and as much nourishment was given as the child could be induced to take.

December 19 Dr. Carpenter again administered ether, and I amputated at the middle of the thigh. The discharge had been materially diminished, and was comparatively free from odor. The operation was done by the double flap method. On the inner surface of the anterior flap there was a small pocket like the end of the thumb of a glove—the upper cul-de-sac of the abscess; this was curetted and thoroughly swabbed out with sublimate solution (1-2,000). A rubber drainage-tube was placed across the wound in the angle between the flaps; it was withdrawn, dry, on the third day.

Healing took place very rapidly under the ordinary antiseptic dressings. On the ninth day, December 27, there was noticed a small accumulation of pus at one point in the wound toward the outer side of the stump; this was well washed out with peroxide of hydrogen on that and the next day, after which it closed permanently.

On the 11th of January, twenty-three days after the amputation, the stump was soundly healed, and I ceased my attendance.

May 12 I called to see the boy, and found him in the best possible health, plump and hearty, and going about actively on crutches.

I do not think it is too much to claim that in this instance the direct life-saving value of the antiseptic method is strikingly demonstrated.

Of course, I am quite well aware

that successful amputation in cases of suppurative degeneration of the knee-joint in children is no new thing in surgical experience. But it must be considered that here was no such systemic tolerance as is established in slowly advancing tuberculous or scrofulous abscess. This boy was the subject of acute traumatic destruction of all the tissues of the joint, with burrowing of foetid pus upward along the intermuscular spaces of the thigh, and intense constitutional reaction. There was certainly local sepsis, and I feel warranted in the belief that the products of this process had been carried into the general circulation.

Nothing but the total change in the character of the joint-abscess, brought about by antiseptic cleansing, could

have given any chance for effective tonic treatment. Nothing but the surgical cleanliness of the amputation-wound, secured by the rigid observance of the antiseptic method, could have made the removal of the limb so entire a removal of the menace to the child's life.

I well remember a similar case which occurred to me about twenty years ago, in which I had the advantage of the counsel of the late Dr. Agnew as well as of my friend Prof. Brinton. Prompt amputation was performed, excision being out of the question; but free suppuration ensued in the stump, and the boy died exhausted within two weeks' of the time of operation.

The Summer Diarrhœas of Infants.

BY FRANK W. TALLEY, M.D.,

Visiting Physician to the Southeastern Dispensary for Children; one of the Visiting Physicians to the Jefferson Hospital Dispensary for Children, etc.

THE large number of emaciated infants with green stools which crowd our dispensaries during the hot summer months, the high attending mortality and the evident confusion in their management suggests the subject for a brief resumé of their treatment.

I shall consider two classes of the summer diarrhœas of infants, the simple and the infectious. The simple diarrhœas constitute a small percentage of the cases. They are simply derangements of function without anatomical changes in the intestinal tract, unaccompanied by fever and

with no involvement of the stomach. Usually they occur suddenly. The infant becomes restless, has frequent stools, at first fæcal, then watery, of yellow or grayish color, seldom green. There is considerable exhaustion. Recovery takes place in three or four days or the trouble develops into a more serious form.

These cases respond readily to a restricted diet and the administration of a cathartic followed by an opiate. For unloading the bowel nothing acts better than the time-honored castor-oil, of which a teaspoonful may be given to an infant one year old. Calo-

mel in one to three grain doses or the aromatic syrup of rhubarb may be used, but their action is not so happy as that of the oil. A few hours after the administration of the cathartic opium had best be given and preferably in combination with bismuth. A powder consisting of three-fourths of a grain of Dover's powder with five grains of bismuth after each passage has acted most happily. Until the diarrhœa has been controlled, if the child be at the breast, the intervals of nursing should be lengthened and the time at the breast shortened. If fed artificially, the diet should be restricted to barley-water, albumen-water or beef juice administered at comparatively long intervals and in small quantities. After the diarrhœa has been controlled, a careful regulation of the diet is necessary to prevent its recurrence.

The infectious, mycotic or bacterial diarrhœas are the true affections of summer. They occur in children fed artificially during the hot months of June, July and August, the mortality curve reaching its summit by the middle of July and gradually falling as the cooler days of September are approached. It is dependent upon ptomaine poisoning, the toxic matter being formed either in the milk outside the body or in the intestinal tract from bacteria introduced along with the milk. Children weakened by previous attacks of simple diarrhœa or by inherited rachitic, syphilitic or tubercular taint are more liable to the disease. In these diarrhœas there is an attempt at elimination of the toxic materials by the stomach as well as by the bowel, and vomiting becomes a prominent symptom. The stools are frequently of varying shades

of green. The green coloring-matter has been the subject of considerable investigation. It was believed by Wegscheider to be due to the presence of biliverdin. Hayem and Lésage considered it the product of some specific germ. The most probable theory is that given by Pfeiffer, who regards it as due to a pathological alkalinity somewhere in the intestinal tract. He has proved his theory by experiments upon the healthy child, producing typical green stools by the administration of bicarbonate of soda, and restoring the normal yellow stool by withholding the alkali and administering dilute hydrochloric acid.

I shall consider three forms of infectious diarrhœa, the mild, the severe and the choleroïd.

I. *The Mild Form.*—Here we have a gradual onset with little or no rise in temperature and very slight gastric disturbance. There may indeed be no other symptom than the diarrhœal discharges. These are of thin consistence, yellow or green color, at times offensive, occasionally containing curds or undigested fat. After a few days they contain mucus. The child is fretful, irritable, peevish, especially at night. The appetite is usually weak, may be entirely lost, or at times remains normal. The tongue presents a thin white coating, through which the fungiform papillæ are seen as red points. This is especially marked on the sides of the tongue. If untreated, these children lose flesh, become pale and flabby; the weight falls one or two pounds a week, until more severe symptoms develop and carry them off, or they hang on until cool weather and then gradually recover.

II. *Severe Form.*—In this form the

onset is sudden. The infant, previously healthy, becomes restless, has frequent spells of crying with interrupted sleep. The skin loses its moisture, becomes hot and dry. Temperature rises up to 102° to 103° , even 105° F. The child lies with legs drawn up, abdomen hard and distended. There is twitching of the tendons and even convulsions. Complete loss of appetite and great thirst. These symptoms last for five or six hours, when vomiting commences. The vomited matter consist at first of the undigested contents of the stomach, become mucus, then serous, even bilious. The stools are at first feculent and attended with loud evacuations of flatus, preceded by colicky pains and often of an offensive, sickening odor. There may be four or five stools in an hour. Their color may be any of the combinations of gray, green, yellow or brown. From the beginning there is great prostration.

III. *Cholericoid*.—The vomiting and purging of this form of infectious diarrhoea may be preceded for several hours by a steadily rising temperature and great prostration. They may occur at the same time, or the vomiting may precede the diarrhoea. The vomiting is incessant, at first the contents of the stomach, then mucus, then serous and finally bilious. The stools are copious, watery, very frequent, at first pale green, yellow or brown color, afterward composed almost entirely of straw colored serum, acid, neutral and finally alkaline reaction, odorless. Relaxation of the sphincter soon occurs, and the evacuations take place without effort and every few minutes. The child loses weight rapidly. The fontanelles be-

come depressed, eyes sunken, features pinched, angles of mouth depressed, countenance pallid, expression anxious. At first it utters low moans, is restless, quiet but a few moments, then heavy and stupid; relaxation develops into coma and the child dies in convulsions.

The temperature is elevated from the very first, 102° to 104° , even 108° F. in fatal cases. Pulse 150 to 200, soon becomes weak, irregular and imperceptible. Respiration irregular, frequent and stertorous. Tongue is generally coated, but may be dry and red. Thirst is extreme. The case usually terminates in forty-eight hours for better or worse.

The treatment of these maladies has been as varied and confusing as it has been unsuccessful.

The indications are:

- (1) To remove the cause.
- (2) To support the patient until the ptomaine poison is thrown off.

The removal of the cause embraces the sterilization of the milk and the removal from the intestinal canal of its fermenting contents and colonies of bacteria. Until recently the milk sterilization was brought about by exposing it in suitable vessels to steam or boiling water until a temperature of 212° F. was reached. This method was open to the objection, that a temperature near 212° F. the chemical composition of the milk was changed, interfering with its digestibility. In a recent paper Freeman has overcome this objection by keeping the milk at a temperature of 167° F. for half an hour in an appropriate apparatus, at which temperature all the germs are killed and the nutritive qualities of the fluid are not interfered with.

The cleansing of the intestinal canal is attempted by the flushing out of the stomach and intestines with water, either pure or medicated with boracic acid or thymol.

The apparatus needed for this manœuvre consists of a fountain syringe, over the nozzle of which is fitted a large-sized flexible rubber catheter. In using the apparatus the end of the catheter is placed on the back part of the child's tongue, when a swallowing motion will be noticed and the tube can without effort be passed into the stomach. Irrigation should be continued until the washings come back perfectly clear. This procedure is valueless unless irrigation of the intestines is conjoined. Here the same apparatus is used. The child is laid stomach down on the nurses lap, previously protected by a rubber apron, and the tube entered into the anus while the stream is flowing. This facilitates its introduction. It is passed on as far as possible, beyond the sigmoid flexure in most cases, and water passed in until the bowel is distended, when the resistance of the sphincter will be overcome and the contents—tube and all—will be forcibly expelled. This should be repeated until the canal is washed clean. The relief obtained by removing the fermenting bowel contents is marked, and very often I have seen the child fall into a peaceful sleep on the nurses knee. Such washing should be repeated daily.

After thus cleansing the alimentary tract, as far as possible, of the colonies of bacteria and their toxic products, the next step is to administer anti-septic drugs, and the most efficient

of these are calomel and salol. They are best given in small and frequently-repeated doses. One to two grains of calomel or one to four grains of salol daily, in fractional doses, are enough for a child one year old. Sub-nitrate of bismuth, in five to ten-grain doses, is an old and reliable remedy.

The second indication includes the support of the patient until the toxic matter is eliminated. The heart must be sustained, the temperature reduced and the nervous symptoms allayed. Under the copious irrigation these symptoms are greatly moderated.

If the vomiting and purging, nervous symptoms, restlessness, delirium or convulsions continue, opium is indicated. Morphia, hypodermatically, is the best form. 1-100 grain of morphia, with 1-800 grain atropia, may be given to a child one year old, and repeated in one hour if necessary. For hyperpyrexia the cold bath is the only treatment. The child should be placed in a bath at 100° F. and the temperature of the water gradually lowered to about 85° F. by adding ice, and the patient allowed to remain until the proper amount of reduction is effected. These baths may be repeated hourly if the high temperature persists. Stimulation is necessary; iced brandy or champagne in small doses frequently repeated, if tolerated; if not, the hypodermic administration should be resorted to. After the stomach has become tolerant and the diarrhœa is checked, the sterilized milk is to be given in small doses. A change of air to the seaside or mountains is then indicated to secure a rapid convalescence.

The Clinical Experience of a Country Practitioner with Diphtheria.

BY S. T. ROBINSON, M.D.,
EDWARDSVILLE, ILL.

IN this paper it is not intended to offer any very original ideas, but to record some experiences with well-known remedies and the method of using them as learned at the bedside in private practice. The picture being entirely clinical, the following statement of facts will first be given, choosing this group of cases, out of a large number, as perhaps the most typical:

One morning three years ago, I was sent for to see a little boy in the family of Mr. H., but being away, presumably for some hours, the call was referred to a fellow practitioner with the understanding that I should take charge on my return in the evening. This physician, a very capable man, who saw the case at the immediate onset, diagnosed it as probably tonsillitis, and in the evening when it came under my care, I promptly called it diphtheria, and explained the difference in the two opinions by the fact that the first physician had seen the case at too early a stage to make the diagnosis. The child was at once put upon the most energetic treatment at command, and in five days he was well.

The family then let it be understood that while they appreciated the care and energy of the treatment, they could not but believe that the diagnosis of the first physician was correct, and that the child had suffered from tonsillitis and not diph-

theria. I protested vainly against this view, and urged further isolation of the boy and other prophylactic measures in view of the remaining children who might become infected; but perceiving that my advice met only unbelief, I desisted and terminated my connection with the case.

In about ten days I was sent for to see the baby, a boy a year and a-half old, suffering with high fever, and having vomited once or twice. Characteristic patches were seen in his throat, and the diagnosis was clear. The appearance of his nurse—a negro girl of about sixteen—also attracted attention, and she was found with a temperature of 101° , and after severe cross-questioning she unwillingly admitted that she had had a sore throat for some days. On examination a large patch on one tonsil was disclosed. At that time the other children were well, and proper precautions were quickly taken; but that evening a little boy of three, and next morning a girl of five, fell sick in the same way, and so on until there were five children and three hired girls infected, making, with the first case, nine in the family.

The treatment of these cases covered a period of nearly five weeks, and in its execution no pains nor expense was spared. The family were intelligent and wealthy, and being now thoroughly aroused to the danger that assailed their children and

the nurses, were indefatigable in carrying out the details of an exceedingly arduous plan of treatment; for when it comes to giving little children hourly doses of medicine, combined with a frequent repetition of douching, swabbing and atomization, both day and night, together with the fact that no trained nurse could be obtained, there is an amount of labor and loss of sleep entailed that will almost overwhelm the stoutest. But energy, determination and good management conquered, and while for a few days it seemed as though one or two would die, they all recovered, and before the cases were dismissed were looking, without exception, better than before their illness.

A little study now as to the probable origin of these cases. The first boy who had the disease had been taken by his mother, shortly prior to the illness, to see a noted throat specialist in St. Louis for enlarged tonsils, and this gentleman being absent at the moment, they awaited his return in the office. On coming in he remarked that he had just been to see some malignant cases of diphtheria in consultation, and that he must first disinfect his hands before examining the boy. Turning from the wash-bowl, he examined the latter and made some applications to his throat by means of cotton which he had wound around an applicator. In a few days—less than a week—the boy took sick. It may have been only a coincidence, but there is, at least, a strong presumption that the boy contracted the disease in the specialist's office. It is, however, but fair to add that there were at the time other cases in our town, as well as an extensive epidemic in St. Louis.

In regard to the cases following this boy's recovery: In spite of their criticism of the diagnosis, there must have been some doubt remaining in the minds of the parents, for it was ascertained afterwards that they had kept this boy away from the other children, but had allowed the negro nurse-girl to wait on him. Investigation proved that she had eaten the remnants of his meals, using the same knife, fork and spoon, and that she had had a sore throat and felt very badly for several days before the baby took sick. And after the latter became ill, just previous to my visit, the other children other children were permitted to be near, petting and kissing him frequently in their childish sympathy. Hence it seems probable, from these facts, that the negro girl contracted the disease from the first boy by eating after him; and concealing or being ignorant of her trouble she infected the baby, which in turn infected the other children.

In regard to the liability of negroes to contract diphtheria, the case of this girl is only one of two I have seen in an extensive epidemic covering nearly three years. It is true we have not a large negro population, nor have I much practice among them; but I do not remember hearing of any fatal cases, and this girl was the easiest of the nine to cure. In a few days she was well, giving very little trouble.

And now for the treatment of these and similar cases: In the first place, diphtheria is almost invariably accompanied at the outset by fever ranging from 101° to 105° , and constipation; sometimes, but not invariably, vomiting. To meet these general indications calomel is given, ranging from

a dose of one-twelfth of a grain every hour for a young infant, to a quarter of a grain for a much older child. This has been found a most important step to be taken at the very inception of the treatment. It allays the stomach irritability, if any be present, by directing the temporarily increased and deranged secretions downwards, and helps to prevent their premature arrest; at the same time it overcomes the constipation, another most important point, as will be seen later on; and yet again helps to prepare the system for the mercurial impregnation, which must be absolutely secured to save your patient, just as surely as the majority of syphilitics will develop tertiary symptoms and perhaps die of some visceral form of the disease unless specifically treated.

In regard to the fever: As soon as the calomel is begun quinine is also given in suspension until decided doses are taken. For a child of eight or ten years two grains in a teaspoonful of arom. elix. glycyrrhiza every two hours until twelve to sixteen grains are taken, unless there is some special idiosyncrasy in regard to quinine. For a baby a year old, a half grain is given every two or three hours until six grains are taken, or even slightly larger doses if well borne and the indication is strong. However, it is difficult to lay down precise rules as to the quantity to be administered, as in a large experience in a malarial climate the greatest differences have been observed among individuals as to its effects. Some are easily cinchonized, others with difficulty, and here as with many drugs, one must learn by actual contact with his patients the dosage required. But I can strongly bear testi-

mony to the excellent effect of quinine in the early febrile stage of this disease. This conclusion is unaffected by the fact that all the authorities state diphtheria to be non-febrile except at its beginning, because in view of that fact, and being suspicious that my confidence in the drug was of the *post hoc, propter hoc* variety, I have a number of times refrained from giving it, but always to my regret, for, almost invariably, the fever would last two to five days—generally three—and reduce the patient out of all proportion to a fever due to another cause. On the other hand, if the quinine is given promptly at the outset, there was generally a defervescence within twenty-four hours, and no subsequent rise unless there was a fresh invasion superadded to or following the first, as shown by the local signs. As to how the quinine acts, I offer no theory, because I have none, and am only dealing with the clinical side. It is true our climate is a malarial one, but the disease has never shown any malarial complexion. I can only give testimony to its happy effect in the early febrile stage, which is the only time it is used at all in the disease. In a great number of cases not one can be recalled in which it failed to do good when given as stated.

To return to the calomel part of the treatment, as soon as eight to twelve doses have been given, it should begin to have a laxative effect. If by that time the bowels do not relax, its action is assisted by an enema, small doses of syr. rhei., or magnesia, perhaps a teaspoonful of castor-oil; at all events continuing the calomel until an effect is obtained, which is generally secured with less than a dozen doses. Just as soon as this result is noted,

the calomel is stopped, and the following mixture substituted, which will serve as a type, subject to individual modification, of what I use in managing this disease. At the same time it is taken for granted that the preceding preparatory plan of treatment has been thoroughly carried out, that the vomiting has ceased or been relieved, the constipation overcome and the fever subsiding. For to put large doses of iron and bichloride of mercury into a stomach under contrary conditions is only to add more trouble to that already existing. The following is the mixture, say for a boy of six to eight years :

R.	Hydrag. chlor. corros.,	gr. i.
	Mur. ammon.,	q. s.
	Aquæ. q. s. to dissolve.	
	℞. et adde,	
	Pulv. chlor. potass.,	gr. xxiv.
	Mur. tr. ferri,	℥ss.
	Syr. simplicis, q. s. ad.	℥vi.

M. Sig.—Give a teaspoonful, with a tablespoonful of water added to each dose, every one or two hours as directed.

By this time the quinine has probably been taken, and the above mixture contains all the medicine now to be administered. If it is a severe case and the local lesions seem rapidly progressing, there has been no hesitation in giving it every half-hour for a number of doses, in that event reducing the quantity of iron, and all the time watching carefully for any sign of stomacic or intestinal irritation. But as a rule this untoward effect has not been observed, and its absence can be accounted for by two facts: (1) the thorough preparatory treatment; and (2) the proper dilution of the dose of the bichloride. Those who fear the so-called large doses of the drug may possibly have neglected these essen-

tial precautions. One of the New York authorities says he has given a half grain to a very young child in twenty-four hours, and I have done the same in cases of diphtheritic croup, combined with mercurial inunction at the angle of the jaws, and with success. In fact, I hesitate to say just how large a dose I have given, as the statement may be received with incredulity by some. But this much is certain that results have inspired great confidence in its actual curative power, provided it be given early and vigorously. The fear of poisoning must be banished, as, while it may possibly occur, the death of your patient from the disease is a more imminent danger. I have never seen but the most transitory symptoms of poisoning from it in diphtheria, and they speedily disappeared on temporarily stopping its use. It is possible, as has been claimed, that children, after a time, develop a tolerance for unusually large doses of the bichloride. At all events, I keep the bowels open, push it boldly and the cases get well.

In chlorate of potash I have but little faith. It will be noticed that it is used in very small doses, and possibly may have some slight effect on the accompanying mucous congestion; but this is doubtful, and it is given only through the force of tradition. In the above doses it can certainly do no harm, and in larger ones possible ill effects upon the kidneys have been feared.

Of the benefit of the tincture of the chloroide of iron in sustaining the vital forces in its struggle against invasion, there will be no question, and its utility need not be discussed. The muriate of ammonia, of course, is put in only for

the purpose of securely effecting a solution of the bichloride, and the physician is bound to see that this is done.

The benzoate of soda has only given disappointment every time it was used, and its exhibition seems worse than useless, as involving a dangerous loss of valuable time.

Local treatment, of course, is extremely valuable, and when it can be carried out thoroughly assists greatly in an early recovery. At the same time there have been cases, apparently very severe, where the children were so refractory and such a degree of force was necessary to carry it out, that we were compelled to desist through fear of heart failure or other accidents while struggling with the child. In such case the internal treatment was pushed all the more vigorously, as energetically as I dared go, or until warned by complaints of "stomach-ache," or some vomiting. Then, having found the limit, the doses were reduced and kept just within the line. In no case was there any but a very temporary bad effect, and the result of my experience is that these cases, while perhaps somewhat more prolonged, did just as well in the end. The conclusion, therefore, is nearly irresistible that the constitutional treatment is the true basis for its successful management, admitting, however, the almost equal value in the first few days of the local plan. But if this latter is not effective at the outset, the ratio of its value decreases with every day that elapses. I believe that all the grave symptoms of diphtheria are produced by some peculiar form of sepsis, that the subsequent paralyses are due to effusions and adhesions in

the substances of muscles and around the course of nerves; and that, as a usual thing, if both the internal and local treatment is sufficiently energetic at the very beginning, before the system, as it were, is overwhelmed by microbe invasion, these unfortunate sequelæ will not occur. In a large number of cases, considerably over a hundred, treated after this method, there was only one case of paralysis—affecting the muscles of deglutition—and that a slight one. Nor have I ever had a death resulting from a sudden and unlooked for heart-failure. Sometimes the treatment has been too late to save life; but wherever life was secured, so also were the paralyses averted. And here I wish to lay down what I consider a broad law in the successful management of diphtheria, something learned by actual experience, and which may possibly be stated by some of the authorities, but if so, it has never come to my notice. The law is this, and I have come to regard it as axiomatic: As long as there is fetor about the breath of your patient he is in danger!

Would the obstetrician permit the continuance of rotten lochia from a woman whom he was treating for puerperal sepsis? Why, then, should our diphtheritic patient be allowed to discharge from his respiratory passages a fetid current of air, foul with the product of a most vicious decomposition, and a continual source of further danger to himself and others? This must positively be overcome, and as long as it is not the treatment is surely ineffective; and it must be overcome by means which do not simply mask, but which would under any circumstances prevent septic ab-

sorption through a peculiarly favorable surface. To my mind the fetor is a reliable guide, and when legitimately absent the patient is reasonably safe.

Now for the details of local management: As soon as a case comes under treatment the surface of the patches is swabbed with a dilution of Monsel's solution in glycerine, of the strength of one in five if the child is very young, up to half-and-half if much older and the membrane quite thick. The denser the membrane the stronger can the solution be used; while the thinner it is and the nearer to mucous soil the application comes, the more carefully must it be used, as in the tender and succulent condition of the surface which has just, or is soon to lose its false membranous investment, considerable damage may be done, and reulceration follow which in turn can easily become reinfectd.

I am satisfied that before learning the limitations of local treatment, I sometimes provoked a semi-hæmorrhagic condition by too much zeal. In making the applications a throat brush has no place. In other septic conditions such an instrument would be considered an abomination, and it should be in this. Absorbent cotton around a steel applicator is used, the cotton is burned up, as are all rags after use, and the applicator can be rendered aseptic.

Within an hour after the application of Monsel's solution, I begin to use, sometimes with an atomizer, sometimes on a swab, the peroxide of hydrogen. If an atomizer is used it is necessary to procure one that throws a large and copious cloud; a double-bulb pressure gives the best.

There is some dispute, it appears, as to the reliability of different preparations of peroxide of hydrogen, the claim being made that many on the market are worthless. How this may be I do not know, for I have only used one preparation for several years, that manufactured by a firm of St. Louis, and in my hands it has seemed to meet every requirement. Occasionally a bottle comes to hand that does not seem sufficiently active, when it is at once discarded for another. In every case I satisfy myself of the merit of each individual bottle of the peroxide by the fact that when brought in contact with the false membrane it should foam vigorously like soap-suds, and the more energetically so the better the preparation is esteemed. I use it just as it comes from the manufacturer, as claimed, in ten volume strength, and repeat its use at first, until the disease seems to be getting under control, every two hours. Monsel's solution is applied two to four times a day.

And here again I would like to renew my former caution, as results show it to be most important. The thicker the exudate the oftener can the peroxide be used; and the closer you get to mucous surface, the weaker and less often must it be applied: else, instead of doing good, increased irritation will result. Very often a nice discrimination is called for, and in this fact, doubtless, lies much of the difference of opinion as to the value of these remedies. At this stage, as in everything else, individual judgment must act, and the practitioner must know when to push boldly and when to creep along very carefully. In all the text-books we are cautioned not to violently dis-

lodge the membranes, but seldom is it taught that the very application that at one stage may be of the utmost value, at another may extend the disease by the irritation it produces on a highly susceptible surface. Therefore, too much care cannot be used in applying local remedies, and my belief is that when in doubt it is best to refrain.

Another point in regard to local treatment: The physician should supervise it himself as far as practicable. This calls for an immense amount of labor, and for a busy man is almost an impossibility. So, too, lack of appreciation may discourage that labor; you are likely to be called fussy, and even hints thrown out about your numerous visits. These are only a few of the difficulties to be met; but it should be remembered that it is final success we are striving for, and if the execution of, at times, an exceedingly delicate plan of treatment is entrusted to zealous but ignorant attendants, who probably are more muscular than discriminating, the physician will occasionally regret his inauguration of the same.

Of other local measures recommended, the inhalations of steam from slacked lime have been utterly useless, except perhaps as a harmless measure to keep otherwise meddling attendants busy. It has been tried as thoroughly as anything could be, and in spite of its recommendation by numerous authorities, I have never seen it affect a case in any way. Before I employed the bichloride treatment, I used it constantly in all cases, and nearly all died; now I do not use it, and nearly all get well. I have come to the conclusion that its continued presence in later text-books must be due to a de-

sire to present the whole subject in a well-rounded shape.

Pepsin was tried a few times, but did no good. Papoid disappointed me, though it has been much lauded by some. Of papayotin I have no experience, but turpentine, in cases that tend to chronicity, has been an excellent remedy to change to for a short time, and is undoubtedly useful. I always try to keep a vessel of hot water containing turpentine in the room. Sometimes an application of a strong solution of chloral hydrate in glycerine has done good service, but of the internal treatment by chloral I have no experience, as it has been thought that at times it would be dangerous, and the other measures have always seemed sufficiently effective. I have been called in consultation in two cases where the practitioner was applying to the throat a mixture of equal parts of carbolic acid and tr. iodine, and, of course, both the children died. Of the absolute barbarity of such a treatment it is hardly necessary to speak.

I once had a case, which came under my care late, and where recovery was slow, in which, after all the patches were gone, there was still left a little pearly nodule, dense and with almost a shell-like covering. All applications failed to remove it, and as its presence caused much anxiety to the parents, I finally burned through its thickness with the actual cautery, using a heated steel point after the method of Bosworth in treating chronic follicular disease. Following up this plan with the most careful local antisepsis, the resulting ulcer speedily got well.

To add one final word about local applications: Whenever a case fails to respond to early treatment and

neither mends nor becomes worse, showing a general tendency to chronicity, it has seemed decidedly beneficial, and always under the limitations previously mentioned, to change frequently from one remedy to another, as the surface fails to respond if the same is used too long; but under no circumstances is the internal treatment changed, only, perhaps, more food and wine, or a strong beer, is given.

Under the treatment thus detailed the vast majority of cases are arrested in a few days, soon begin to eat, and are convalescent in one to two weeks, a few as early as two or three days, thus throwing doubt on the diagnosis but for the fact that frequently they would be accompanied by other cases in the same household, more violent and so prolonged as to dispel all uncertainty. In not a few of the patients it was noticed that they had a better color and appearance after convalescence than before their illness. Where they do not eat during the acute attack, they are fed and given all the milk, soups and eggs they can digest; but in a surprisingly small number of cases was it necessary to administer strong alcoholic stimulants, and then generally when the case was seen late, or the fever had been allowed to run on for several days. Frequently, however, wine was ordered during convalescence. The more prolonged cases were those that came under this treatment after they had been sick a week or more, and of these there were a few that lasted for several months before completing recovery. I lost one case, a little girl of three years, one of a group of three children and a mother afflicted, who had been sick ten days without treatment,

and the immediate cause of my being sent for was the threatened collapse of the eldest child. They all recovered from the first attack, became re-infected again and again, and recovered, until finally the youngest developed diphtheritic croup and succumbed in spite of every effort. As fast as they recovered from one attack the children were moved from room to room, the vacated apartments sealed up and fumigated with liberal quantities of burning sulphur; the best general antisepsis and hygiene observed, following in this respect the excellent set of rules collated by the Illinois State Board of Health; all linen and bed-clothing frequently changed and boiled; scrupulous care taken of the persons of the children, drinking water procured from a distance, and all possible sources of local infection ferreted out and removed. But all our efforts to prevent relapses were in vain; they would recover from one attack only to be seized again, until finally the youngest died. She, as well as an older girl, had also intestinal diphtheria, as shown by discharges of characteristic membrane in their passages. Possibly after the throat and nose lesions were cured, the intestinal trouble was still present as a focus of poisoning. At all events, after the death of this child the other two got well, and there was no further trouble. Dr. E. H. Gregory, of St. Louis, was consulted in regard to these cases, but could make no suggestion, save their removal from that house. But this was an impossibility as they had no where else to go at the time.

Among my earliest cases in this epidemic, were three in a family that supplied milk to another family—also

in my clientele—about a quarter of a mile distant. I at once pleaded that this milk supply be stopped, but was met by the statement that no milk intended for the other family should enter the infected house. Argument was in vain, and there being no effective health regulations, nothing could be done. The three children in the family supplying the milk all recovered; but in a short time five members of the family receiving the milk, three young ladies and two younger boys, became violently and simultaneously infected. A still younger girl, who never used milk, escaped entirely. They all recovered; two, however, after a long and severe illness. One, a young lad, developed a hæmorrhagic condition about the throat, after all patches were gone, which for a time gave some trouble; another, a young lady, who, prior to her illness, had been the picture of robust health, became chlorotic, and has now after a lapse of three years, just about recovered her former appearance.

I lost two cases of diphtheritic croup, occurring first as sore throats, among ignorant people, who did not become alarmed until the children were suffocating, and then sent for the physician for the first time. In another case of this kind, treatment was too late to do anything for the baby, but was in time to conduct through successfully three other cases on the same premises. I remember being summoned to see a girl of nine years, who was found dying. The

history showed that she had been going about the house for a week with sore throat, a little fever, and a running from the nose, and the family attached no importance to her condition until she suddenly collapsed. She died within a few hours after my first visit, though every effort was made to rally her vital forces and get her under specific treatment. In such cases, it would seem, absolutely nothing can be done.

The exact percentage of deaths cannot now be given, but it certainly was not greater than five per cent. Nearly all the fatal cases have now been mentioned, and it would be easy to continue citing groups of two or three cases each, in which the diagnosis was indisputable, and where recovery took place. In every instance the same treatment was faithfully employed, with, of course, slight modifications to suit individuals, and but for one fact I would have supreme confidence in its efficacy. That fact is, that possibly the type of the disease may have been one readily managed, and that perhaps some years hence it may visit us in a more uncontrollable form and shatter all theories to fragments. Medical literature is full of such illustrations. As opposed to this view, however, it is but fair to add that there were not a few cases dying under other treatment, and that the epidemic was grievously far from lacking its fatalities.

ABSTRACTS FROM CURRENT LITERATURE.

Cholera Infantum.

AN interesting report in *La Normandie Médicale*, Rouen, June 1, by Dr. Hue, speaks of some observation made during a severe epidemic of cholera infantum in a ward containing children of not more than ten days old. The children taken sick were all fed on cow's milk, not a single nursing child being attacked.

Scrupulous care was taken with

the vessels, and the milk was procured from cows that were healthy and well cared for. The disease was very fatal, death occurring in from twenty-four to forty-eight hours. Anti-fermentative treatments of all kinds were tried, together with boiling the milk. Nothing was of avail until the ward was antiseptically cleaned and the milk sterilized.

The Contagiousness of Measles.

BARD (*Revue d'Hygiène et de Police Sanitaire*, Paris), says in relation to the contagiousness of measles: (1) The germ of measles does not remain in a locality from which those who have suffered with the disease have gone away. Hence, disinfection of bed, furniture, etc., is unnecessary. (2) Contagion is always direct in an epidemic

of this disease, from person to person, though the author admits that it passes through the intervening air. (3) The power of the contagion is such that under favorable circumstances it attacks all who are susceptible. (4) Contagion is possible three or four days before an eruption is evident.

Ophthalmia Neonatorum.

SCHMIDT-RUMPLER (*Journal de Médecine de Paris* for April) calls attention to the fact that blennorrhœa from gonococci in the newborn is not always a serious condition. The opinion is also given that the same disease without gonococci may often prove serious. He believes that it is less dangerous than in the adult, and

that it usually yields more readily to treatment. As an installation he prefers chlorine water to a solution of nitrate of silver. He used this twice a day, covering the eyes with pledgets of absorbent cotton, moistened with a two per cent. solution of boracic acid in the meantime.

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ORIGINAL COMMUNICATIONS.

Fifth Report on the Progress of Obstetrics and Gynæcology in Germany.

BY DR. G. WINTER,

*Instructor and Chief Assistant at the Royal University Clinic for Women
in Berlin.*

OF all the complications of labor, eclampsia has lately received the most thorough investigation in Germany, and as the result there have been many developments in regard to its symptomatology, and especially fundamental changes in its treatment. Also the ætiology, one of the most intricate problems of pathology, has been illuminated from various sides, and from entirely new points of view, but up to the present time no certain facts have been established. The general opinion now, in Germany, is that eclampsia should be regarded as a result of poisoning of the blood by substances which circulate in the latter, causing the symptoms, such as convulsions, rise in temperature, etc. It is not yet possible to decide whether the inflammation of the kidneys,

which is almost always present, is primary, and the retention of the substances, which have been formed in the human body itself, is caused by this, or whether the poisonous substances are external invaders and give rise to the nephritis, as they are excreted, similarly to what occurs in scarlet fever, diphtheria and other infectious diseases. In the most recent times the opinion has gradually gained ground that the last theory is the true one, and an attempt has been made to seek in bacteria the noxious cause of the well-known symptoms of eclampsia in pregnant women. Nevertheless up to the present time these are only investigations which do not even give any appearance of probability, and I therefore forbear for the present to relate these works to the

readers of the *ANNALS*, but prefer to confine myself to practical questions which are presented to us in several comprehensive essays on the symptoms, results and treatment of eclampsia. Olshausen has made a report concerning 200 cases in his clinic, Goldberg on eighty-one cases in the institution of Leopold in Dresden, Loehlein on 325 cases, which he collected from the records of all the clinics in Germany, Austria and Switzerland, so that altogether we have for the latest report in regard to eclampsia a total of about 600 cases.

The intimate relations of eclampsia to nephritis have been again confirmed by Olshausen, who among 168 cases only found four where the urine was from albumen, while Goldberg, out of seventy-six cases of Fischer, found albuminuria in all but one case. In general the severity of the disease is proportionate to the amount of albumen; Goldberg, however, observed one fatal case without albumen. In all the cases where the urine was examined by Goldberg before the outbreak of eclampsia, it was found to be free from albumen, and thereby the view is confirmed that nephritis when combined with eclampsia is an acute disturbance. It has long been known that women who have suffered from albuminuria and oedema during the greater part of their pregnancy, or even previously, are not disposed to eclampsia. It is still an open question whether the nephritis of pregnancy which gives rise to eclampsia completely disappears during the puerperium, or whether, as Leyden supposes, it may pass on into the chronic form. Goldberg found that in seventy nine per cent. of the cases the albuminuria had completely disap-

peared by the seventh day after labor, and in twenty-one per cent. it had greatly diminished, but was still plainly demonstrable. At the autopsies, out of fifty-three bodies of women who had died of eclampsia, there were only two whose kidneys were healthy, and of these two one had had abundant albuminuria during labor, so that it can be supposed that the nephritis had passed away before her death, which occurred on the fifth day from pneumonia. Olshausen found that in two thirds of his cases there were acute or subacute processes in the parenchyma of the kidney, which was shown for the most part to be in the state of acute fatty degeneration; only four cases of chronic nephritis were found among his thirty-seven autopsies, while there were five cases where acute disturbances had been superadded to chronic diseases.

The theory of Halbertsma and Loehlein, that eclampsia originates in the dilatation of the ureters, which is caused by the pressure of the gravid uterus on the latter, receives no confirmation from the reports of the autopsies or from the clinical symptoms. In thirty-seven autopsies Olshausen found the right ureter dilated only five times, and the left only once, and he remarks that dilatation of the ureters occurs with almost equal frequency in puerperal women who have died from other causes than eclampsia. In the records of 105 autopsies there are twenty-five reports concerning the size of ureters, to the effect that in ten cases the right ureter, in two cases the left ureter, and in four cases both were dilated. By most laborious investigation Goldberg attempted to settle the important question of the significance of

dilatation of the ureter; in about a dozen cases where the bladder was absolutely empty before birth, he did not find a single one where the bladder filled with urine after delivery, as it must have done, if the ureter had been entirely occluded by pressure of the descending head against the bony parts.

Among the sequelæ of eclampsia mental disturbances claim a quite peculiar importance. Loehlein observed *phycoses* thirteen times; Olshausen, among his 200 cases of eclampsia, had eleven cases of mental disturbance, and estimated the frequency of the latter, at about six per cent. according to his own reports, and those of other authors. The form is usually the characteristic one of insanity with hallucinations, nevertheless pure mania and melancholia are not infrequent. The *phycosis* occurs also after light cases of eclampsia and generally in the first few days after labor; it generally commences with hallucinations of hearing and sight, often also with double vision. The prognosis is extraordinary good; in most cases the course was very rapid, frequently lasting only a few days. The best means of treatment was found to be hydrate of chloral, in doses of thirty to sixty grains during each day.

The prognosis of eclampsia of the mother has improved very materially in recent years; while Loehlein ten years ago estimated the mortality at thirty-two per cent., he now gives it at nineteen per cent. Olshausen lost twenty per cent., the Charité eighteen and seven-tenths per cent., Goldberg twenty-four and seven-tenths per cent., so that the mortality can be fixed at about twenty per cent. The most

favorable prognosis is by common consent associated with eclampsia in *multiparæ*, who, to be sure, suffer from this affection much less often than others, but usually much more severely. Of Loehlein's cases of fatal eclampsia seventeen and two-tenths per cent. were *multiparæ* and twenty-five and nine-tenths. per cent. were *primiparæ*. Eclampsia during child-bed is not so dangerous as was formerly supposed. Olshausen found the same mortality in eclampsia during pregnancy and labor; Loehlein found the best prognosis of all among *primiparæ* who were affected during the puerperium; Goldberg saw all such cases recover, although, to be sure, among thirteen puerperal women only one was *multiparous*. Olshausen considers the prognosis of puerperal eclampsia as especially favorable if the first attack comes on inside of the first hour after delivery.

It is extraordinarily difficult to establish a standard for the prognosis of eclampsia; it becomes worse as the number of convulsions increase. When there are more than fifteen convulsions the prognosis is unfavorable. If frequent attacks still occur the prognosis is only favorable, according to Olshausen, if the course of the affection is slow—that is, if the convulsions are separated by long intervals. The more severe each convulsion is the worse is the prognosis; a high temperature has an unfavorable significance, although it may not originate in the number of attacks, but in some infectious process. Eclampsia with a temperature above 39° C. ($102\frac{1}{2}^{\circ}$ F.) has double the mortality of that without fever. Goldberg attributes the greatest importance, in regard to the prognosis, to

profound disturbance of the sensorium and continuous cyanosis and dyspnœa. All authors attribute the greatest significance to the condition of the pulse; in all cases with fatal termination Goldberg found the pulse greatly increased in frequency, even after the first convulsion; all reports are unanimous to the effect that women with eclampsia are much more liable than other puerperal women to be affected with severe sepsis.

The prognosis for the children is according to Loehlein, a mortality of thirty-seven and three-tenths per cent.; according to Olshausen, after the subtraction of unviable children, twenty-eight per cent.; according to Goldberg thirty-seven and six-tenths per cent. To this unfavorable termination the great number of premature births contributes, as well as the numerous obstetric operations, the use of narcotics and the severity of the disease. In regard to the first factor, the chief cause is the number and quick succession of the convulsions; after twelve or fifteen attacks the foetus is usually dead, or if born alive, in the majority of cases the infant dies within the first few days. The unfavorable influence of the large doses of narcotics which are necessary for controlling eclampsia is often observed; especially after the use of morphine the children are often seen coming into the world in a condition which may easily be mistaken for asphyxia; they breathe superficially and infrequently, they do not cry, they let their limbs hang limp or move them slowly and with little power; frequently they have the pupils contracted. Excitants are of little assistance for overcoming this condition, and death often follows; other

narcotics, *e. g.*, chloroform, frequently have an effect on the children which is even more unfavorable.

The treatment of eclampsia will be empirical as long as the nature of the disease remains undiscovered. Empirically it has been found that strong narcotics make the convulsions less frequent, or even control them entirely, and make the whole disease milder. Of all the narcotics, in recent years morphine has obtained the most general approval, since its recommendation by G. Veit, who had only two deaths out of sixty-six cases of eclampsia, that is, three per cent.; Loehlein found that in the clinics where morphine was used exclusively there was a mortality of 13.9 per cent., while the general mortality was 19.38 per cent.; that morphine also gives a better prognosis for the children appears to be established by the fact that where morphine was used 68.6 per cent. of the children were born alive, while otherwise only sixty-four per cent. lived. Veit permits the use of morphine in very large doses; he gives up to 0.12 grammes (1.5 grains) in from four to seven hours; careful observation of the pulse and respiration is imperative; an immoderate contraction of the pupils and loss of their reaction to light forbids any further use of opium. A case at our clinic shows how necessary it is to use the greatest caution; in this case after one injection 0, 1 gramme (1½ grains) of morphine at one dose, severe symptoms referable to the heart and lungs supervened, which led to death twenty hours later in spite of all attempts at prolonging and recalling life. We use morphine in the following manner: As soon as the diagnosis of eclampsia is established, the patient

receives the first dose of 0,03 grammes ($\frac{1}{2}$ grain), then, if convulsions occur, or twitchings, which are premonitory of convulsions, doses of 0,01 to 0,015 gramme ($\frac{1}{16}$ to $\frac{1}{4}$ grain) are given at intervals until the patient is in a state of deep narcosis. It is seldom that more than 0,6 gramme (1 grain) of morphine is used altogether; the highest amount that we gave was 0,275 grammes ($4\frac{3}{16}$ grains) in a case of eclampsia which lasted during four days. Olshausen uses little chloral and recommends chloroform only in those cases where it is desirable to control a convulsion immediately; he disapproves of baths, wet packs, etc., since every such disturbance of the patient may excite convulsions.

Besides the medicinal treatment of eclampsia, a great deal may be accomplished by terminating the labor. It is found by experience that emptying the uterus has a favorable effect on the course of eclampsia, and often completely stops it; the earliest statistics do not acknowledge such influence, but it is evident in the more recent observations of Loehlein and Landis that in about seventy-five per cent. of the cases the eclampsia ceases with the termination of labor. Olshausen has observed in 143 cases a complete cessation of the convulsions after delivery in ninety-two cases, while they returned once or twice in twenty-nine cases and three or four times in twenty-two cases. Thus in eighty-three per cent. of all the cases the eclampsia ceased immediately, or at least very soon after, termination of labor. Duehrssen, at any rate believes that he is now justified in concluding that every case of eclampsia could be controlled if treatment were

commenced at the right time, and he proposes to empty the uterus as soon as the diagnosis of eclampsia is established, that is as soon as the first convulsion occurs; in this way the eclampsia is prevented from ever becoming severe. Duehrssen enlarges the cervix, as soon as the supravaginal portion of the latter is dilated, by making deep incisions into the cervix reaching to the vaginal vault, and then delivers as soon as possible with the forceps. Resistance on the part of the vagina and perinæum is to be overcome by deep vagino-perineal incisions. In seven cases he succeeded in curing eclampsia in this way, and of the children only one died, from asphyxia which existed before the operation. If the cervix of the parturient, or even of the pregnant woman is not dilated at all, Duehrssen advises that it be distended by the kolpeurynter, and that delivery be attempted as soon as possible.

Further inquiries are necessary in order to show whether all cases of eclampsia will be similarly influenced by delivery; according to my experience the ones which are the most so influenced are especially those which begin during the period of expulsion; this preliminary question must be settled definitely before an active treatment by obstetric operation is determined on. The contradiction of the older and of the more recent statistics in regard to this question is explained by Duehrssen, by the fact that formerly the operative termination of labor during eclampsia was attempted without narcosis, and in this way such a violent irritation was excited that the eclampsia was inevitably increased, while on the other hand when, as is now customary, delivery is accom-

plished during profound narcosis, and, with due gentleness the favorable influence of this measure is easily recognizable; the more gentle the measures the more favorable is the influence on the course of the eclampsia. Delivery with the forceps gives much better results than version. Olshausen reports that out of sixty-four patients delivered with forceps ten died, while out of nine delivered by version and extraction five died; according to Goldberg out of eighteen delivered by the forceps only two died.

In the form in which Duehrssen brought forward his proposals, as given above, they were discussed in the Obstetrical Society in Berlin, in connection with this question, but they were not accepted. Attention was called to the dangers of the deep incision, such as hæmorrhages, infections, and emboli, which have been observed as a consequence, while it seemed probable that gynæcological diseases would be a frequent sequel. On the other hand, it was agreed that in the severest cases of eclampsia Duehrssen's method of treatment deserved the preference over another procedure, which has recently also come into use in Germany; that is the Cæsarian section. This operation was first performed for this reason in 1878 and then twice again in 1888, by Halbertsma, in Holland, and together with three other cases operated at the same place was reported at the International Congress, 1890, with recommendation of this treatment for eclampsia. Five cases had terminated favorably for mother and child, the earliest case died of sepsis. Since that time other cases have been reported in Germany; Von Herff operated with success for mother and

child; Staude lost one case from sepsis; P. Mueller lost one from cerebral apoplexy, caused by the long duration of eclampsia; Czempin had a death from the same cause. I cannot give complete statistics of the results of Cæsarean Section for eclampsia, since all the cases are not at my disposition, but from those which have been published so far it is clear that the proposition of Halbertsma has not been confirmed, that by means of Cæsarian section both mother and child could be saved, even in the most unfavorable cases.

In opposition to the general use of Cæsarean section Loehlein points out that it is extraordinarily difficult to be sure that it is necessary; that in many cases it is impossible to settle the prognosis in cases of eclampsia, since all indications in regard to temperature, pulse and scarcity of urine may be deceptive, that it is the complex of all the symptoms which decides the question, and this on the other hand depends too much on the subjective judgment of the physician. The interest of the child would recommend Cæsarean section as the only hopeful measure, where the maternal parts are wholly undilated, while the life of the child which is threatened by the convulsions can only be saved in this way; in the interest of the mother, however, it would only be proper to decide on Cæsarean section if no other measures succeeded in controlling the convulsions, and when the patient is becoming more and more comatose and the heart and lungs are failing. The general opinion in Germany is that the justifiability of the Cæsarean section is admitted by every one, but only in the very severest cases where the

prognosis is almost certainly fatal, but only then when labor cannot apparently be terminated *per vias naturales* by means of Dührssen's incision; the latter method certainly promises to have a greater future than the Cæsarean section.

FEVER DURING LABOR.

Some years ago the course of the temperature during normal labor was observed by various authors, and it was established that the average temperature during labor is from $\frac{1}{10}^{\circ}$ to $\frac{3}{10}^{\circ}$ higher than the the temperature during pregnancy, and has an average of $37\frac{1}{10}^{\circ}$ C. (99.3° F.); no unanimous result was reached concerning the diurnal variations of temperature on that during labor, yet it was established with certainty that there is no such influence; the course of temperature during labor consists of a gradual rise during the period of dilatation sinking again gradually towards the end of the labor; the difference between both periods is about $0, 1$ to $0, 2^{\circ}$ C.; Winkel alone is of the opinion that the temperature rises also during the period of expulsion. In order to settle this difference of opinion and also to establish the character of febrile labor Glueckner has recently made observations on the patients at the Royal University Clinic for Women. From a study of forty-three normal labors with 309 thermometric observations, he came to the conclusion that the temperature was usually somewhat elevated during labor, especially in primiparæ, and in such a manner that the maximum is at the end of the period of dilatation or in the beginning of the period of expulsion.

He could not show that there was any such diminution of temperature

as has been anticipated in the cases where the pains were feeble. Glueckner then studied first and especially the cases which occurred where there was fever during labor.

In cases of feeble labor pains he could not demonstrate the diminution of temperature which would have been expected *a priori*. Glueckner has first and particularly studied fever in labor, utilizing a large number of cases, while previously only single cases had been reported, which permitted no complete picture of the disease; he has drawn certain very important conclusions from a series of 211 labors with the temperature of over 36° C. as to the predisposing causes; these are:

- (1) The age of the parturient; 32 per cent. of those with fever were over 30 years of age.
- (2) A narrow pelvis; 30 per cent. of those with fever had a narrow pelvis, while the average frequency of this condition is between 10 and 20 per cent.
- (3) The second position of the head, and the fact that the children were boys.
- (4) Premature rupture of the membranes, which occurred in $63\frac{1}{2}$ per cent. of those with fever.
- (5) Abnormal duration of the labor.
- (6) Severe disturbances of labor of the most various kinds, as is seen by the fact that 52-10 per cent. of the labors were terminated by operation, in fact this was the case in 90 per cent. of primiparæ.

Fever during labor exerts an unfavorable influence on the puerperium, so that the probability of fever after labor is greater in proportion as the temperature during labor has been higher; the labors which were ter-

minated by operation furnished the greatest proportion of the cases of puerperal fever—*i. e.*, 63 per cent.

The writer of this report has likewise occupied himself for several years with a study of fever during childbirth, and has embodied his results in a work "On Fever During Labor." In studying one hundred labors, with a long period of observation, and usually a record of twenty to thirty measurements of temperature, I have observed the course of the fever in order to get definite information in regard to the infectious fever, which is practically so important, and in order to acquire a means of forming a prognosis of the fever, both as to the mother and the child, and finally to establish principles for the treatment of such cases. Besides the febrile diseases which may accidentally complicate labor, such as pneumonia, influenza and phthisis, which are very little modified by the labor in regard to their natural course, there are two causes in particular for real puerperal fever:

(1) The increased production of heat owing to abnormal activity of the uterus and the abdominal muscles.

(2) Infection.

These two kinds must be exactly differentiated both in regard to prognosis and treatment. The first condition, which is a sort of functional rise of temperature, and is to be so considered, is most usually observed in primiparæ, and especially in elderly ones and in those where the soft parts are rigid, where the passages are in an abnormal condition, as for example, where there are cicatricial contractions, condylomata or tumors in cases of narrow pelvis, where there are spasmodic contrac-

tions of the uterus, and especially where there is tetanus uteri. On the other hand they are very rare among multiparæ if the pelvis and soft parts are normal. The abnormal hindrance requires a great muscular strain of the uterus and of all the muscles of the body which are associated with the abdominal muscles in bearing down, and this excessive muscular action produces not only greater force, but also a higher temperature. In these cases the temperature remains at a moderate height, seldom passing 39° C., and in a majority of cases the frequency of the pulse is within the limit which is to be expected with such an elevation of temperature.

Far more important is the second group of febrile cases, which are to be referred to infection. In the genital canal there are always found masses of material which putrify easily, such as meconium, amniotic fluid, mucus and in some cases a dead fœtus; under the influence of organisms which have been introduced by examinations, or which have found their way in spontaneously, or which were previously present, decomposition of the above mentioned substances occurs and ptomaines are produced; these are absorbed by the uterine wall, which has been stripped of the fœtal membranes, and they give rise to high fever, rigors, great frequency of the pulse, etc., that is to conditions which may pass on into sepsis; for such a putrefaction time is required, and therefore a considerable duration of labor is a prerequisite condition for the occurrence of the infectious fever and rupture of the membranes for resorption of the poisonous matters.

This condition is most frequently

found in cases of abnormal position, of narrow pelvis or of elderly primiparæ. In cases of infectious fever the temperature rises much higher, frequently reaching 40°C . 104°F . and over, and varies greatly, with very striking differences in the temperature. Chills are of frequent occurrence, and they generally precede the rise of the temperature. The pulse is very much more frequent in nearly all cases than what would correspond to the temperature, and generally rises some hours before the first attack of fever; in severe cases there are grave constitutional symptoms, thirst, dry tongue and stupor are noticed; moreover, the putrefaction makes itself evident by a foul discharge, and the uterus is distended by putrefactive gases.

The diagnosis between infectious fever and the functional rise of temperature rests on the degree of elevation of the temperature, the chills, the great frequency of the pulse and the escape of foul secretions.

The prognosis of the benign increase of temperature is very good for the mother; out of forty cases, thirty-three passed through the puerperal period entirely without fever, and only seven had any unimportant disturbances; the prognosis for the child is also very good; it is otherwise, however, with infectious fever; out of fifty cases, four died and sixteen had fever during the puerperium, while only nineteen remained quite free from fever; the prognosis would certainly have been much worse than these figures represent if the birth had not been immediately terminated as soon as the first symptom of infection appeared. On emptying the uterus the decomposing masses are removed and the fever may subside;

if there is any delay, however, the organisms penetrate the abdominal wall, and septic conditions ensue. The prognosis of infectious fever, therefore, depends on proper treatment. The children, likewise, very frequently perish in cases of infectious fever. Thirty-five per cent. of those delivered in the above cases died. The chief danger for the child lies in the decomposition of the contents of the uterus, and especially in the accumulation of gases in the hypogastrium. Tympanites of the uterus is almost certain to kill the child.

The treatment of fever during labor presupposes that the thermometer is used in all prolonged labors. As soon as a temperature of over 38°C . 100.4°F . is noticed, observations of the temperature and pulse must be made at regular intervals. The diagnosis of the cause of the fever is most important; if the elevation of temperature is only functional, it is not necessary to use any treatment, and particularly it is not necessary to terminate the labor by operation; if, on the other hand, it can be assumed with certainty that infection is present, delivery should be accomplished immediately, if it is possible, in order to be able to empty the genital canal and then to disinfect it. If, on the other hand, immediate delivery is only possible under great difficulties, or only with danger of the life of the mother and with sacrifice of the life of the child, a delay of a few hours is admissible, in cases which are not very severe, until such time as the conditions are more favorable for a safe delivery. In all cases where the diagnosis as to the cause of the fever is not yet certain, it is possible to delay until some surer symptoms of infection occur. After delivery, the

uterus must be very carefully disinfected. To do this it is best to irrigate the uterine cavity while the placenta is still adherent, and again after the expulsion of the placenta.

An approximately certain and also a safe means of disinfection, according to my experience, is a three per cent. solution of carbolic acid.

Two Cases of Extrauterine Pregnancy: Laparotomy.

BY PROFESSOR MAUR. SALIN,
STOCKHOLM, SWEDEN.

[Translated by J. G. TAPPER, M.D., Elgin, Ill.]

INVESTIGATION into the condition known as extrauterine pregnancy must, for the present, be of the greatest importance to the gynæcologist. Through the efforts of Lawson Tait, Veit, Werth and many others attention has been directed to this abnormal state, and it has furthermore been surrounded with an intense interest; although previous to the year 1884 the subject of extrauterine pregnancy was but slightly touched upon, yet during the later years it has been marked by many more or less important papers, and now a person can scarcely open a gynæcological journal without finding something upon the same. It is clear that our views on this disease have been considerably changed by this method. Above all else have we discovered that ectopic gestation is far from a rarity, and that a very large per cent. of occurring hæmatoceles are caused by this condition. Even now opinions are divided, so that every case should be studied individually. For this reason I have deemed it of sufficient importance to place on record two cases falling under my observation, although they offer little of importance.

I.—Patient, aged 29, was confined eight years ago. Parturition uninteresting and puerperium normal, yet patient never regained her former strong and excellent health. Complained constantly of being weak, anæmic and generally feeble. Five or six years since she passed through scarlatina, complicated with diphtheria. During the year 1889 was treated at Sabbatsberg Hospital for uterine catarrh. Menses, which began at the age of 15, had always occurred with regularity. About the last of February, 1890, they ceased, and the patient believed herself to be pregnant. Her subjective symptoms corresponded to this condition. Although her health was very poor, she still continued about. She experienced a constant tenderness in lower portion of abdomen on right side, with pain and weight in small of her back. Moderate constipation. During the first part of May there occurred a hæmorrhage which during the first fourteen days was constant, but afterwards became less, with intermissions of from one to three days. Concerning this hæmorrhage the patient can give no further information. She was

treated by physicians. June 7 she became suddenly ill; nausea with pain and cramps in bowels, vomiting and apparently very severely ill. The same day she was admitted to the Gynæcological Clinic of the Sabbatsberg Hospital.

Present condition, June 6.—Patient bears evidence of severe suffering. Body and muscular system considerably reduced. Skin and mucous membrane pale. She complains of colicky pains in bowels, at times very severe. Abdomen somewhat distended, with marked tenderness over right lower portion and in region of symphysis, where an obscure resistance could be recognized. By vaginal examination, cervix found pushed to the right, neither softened or enlarged. Uterus anteflexed, not to any considerable extent enlarged, with corpus over to left and to some degree movable. To the right of uterus could be felt a rounded, slightly elastic resistance, the upper border of which reached about a hand's breadth above the symphysis. To the right it extended nearly back to spine, and on the left it passed beyond the middle line. It surrounds the cervix and lies close to uterus, yet is clearly separated by a furrow. It is smooth. It is more plainly to be felt through the rectum, and gives to the sense of touch the outlines of a tumor, not that of an infiltration. It is very tender, so that it becomes impossible to determine its relations to other organs. Traces of albumen in urine. Nothing found in other organs.

During subsequent days patient had but little fever, highest temperature $38^{\circ}\text{C. (100.4}^{\circ}\text{F.)}$ in rectum. General condition has improved, with lessened pain. June 18, during the after-

noon without warning, began suffering severely with pain, especially over epigastrium. Considerable tenderness over entire abdomen. Vomiting. Pulse feeble and rapid (112). Patient became pale, with indication of profound collapse. Upon examination which was then instituted, swelling was found to be possibly somewhat smaller than before, with plainly defined contour. From this and reaching back of cervix was an undefined fulness. House-surgeon Dr. Alin, who suspected an intraperitoneal hæmorrhage, telephoned me at once whether an operation was not immediately demanded. I concluded, however, to watch, being doubtful about an operative measure the purpose of which was the arresting of a hæmorrhage deep down in the pelvis. To work at night, and above all with the insufficient light at our command at Sabbatsberg Hospital, could only result in an unfortunate termination, besides her condition was not considered worse after the first shock. I hoped that the hæmorrhage had spontaneously ceased, and recognized that the outlook for a successful operation would be enhanced the more the patient might recuperate. Ordered ice and morphia. The patient's condition was very much improved the following day. No positive information as to an internal hæmorrhage existed. Her symptoms rather pointed to an acute peritoneal inflammatory attack. Abdominal tenderness considerably augmented. As the patient herself, as well as her husband, favored the attempt at an operation, and as I counted the risk of a second relapse too great to assume, I arranged for the operation June 21, 1890. Upon opening into abdominal cavity there poured out from all sides of the peri-

toneal incision large quantities of thin fluid, black blood. The tumor, which was composed of the foetus and a large mass of hard, coagulated blood, occupied the lower portion of pelvis on the right side, adhering by light loose adhesions to the surrounding parts. The foetus lay outside of foetal sac, in the bottom of the space of Douglas, imbedded in coagulated blood. After the tumor had been freed and brought forward, it was found adhering to the ligamentum lat. by a short broad pedicle. This was secured by means of three heavy silk ligatures, whereupon all hæmorrhage ceased. As we were about to close the abdominal incision a considerable hæmorrhage appeared, which came from deep down in the pelvis. The slipping of a ligature from the stump was found to be the cause. The stump was secured with considerable difficulty and was tied again, after which all hæmorrhage ceased. Intestines were bound down in several places. Flexura sigmoidea, which was adherent to bladder, was stretched over uterus. Serous membrane in a number of places, rough and dull in appearance. Foetus, dead but not macerated, measured 15.5 cm. and weighed 65 gm. Placenta, which was considerably torn, appeared upon its maternal surface to be covered with a thin membrane, which was united with the remaining portion of the tube. So far as could be ascertained the entire foetus was removed. A perfect abdominal toilet was not attempted, but everywhere in the abdomen were to be seen old and recent blood-clots.

Convalescence continued uninterrupted. The following morning the highest temperature, 38.4°C. (101.1°F.) per rectum, was reached. Pulse 120.

After this the temperature and pulse gradually fell, so that after fourteen days she was enabled to leave her bed. By vaginal examination uterus was found to be antelected, movable, drawn to the left; to the right and back of uterus a feeling of fulness, yet no considerable resistance. The temporary albuminuria which was discovered at time of admission to hospital disappeared a few days after operation. Patient was discharged cured the fifth week, and has since reported herself as well. That we could not positively determine the existence of free fluid in the abdominal cavity after her first attack, while such an amount of fluid-blood actually existed, can naturally be accounted for by the patient's critical condition forbidding the necessary extended examination. The diagnosis of extrauterine pregnancy at the time of receiving patient was not a difficult task. All the signs of such a pregnancy were to be found. The patient herself thought she was pregnant. The uterus could be plainly palpated at the side of this smaller tumor-like resistance. The gestation was undoubtedly a tubal pregnancy. This is confirmed by the union of the foetal sac with the tube. Nothing positive could be determined as to the gestation owing to the torn condition of the membranes on their removal. Pregnancy, at the beginning, had developed without any untoward symptoms, not indicating the abnormal conditions actually existing, save the tenderness on right side. June 7 there occurred a hæmorrhage, undoubtedly within the foetal sac, as at the time of operation there were found a large number of old, hardened blood-clots. This hæmorrhage was

the cause of these alarming symptoms. Doubtless the death of fœtus occurred at this time. The fœtal development indicates a four months' gestation. June 18 rupture of sac took place, accompanied by an intraperitoneal hæmorrhage and escape of fœtus into the space of Douglas. This explains the apparent shrinking of tumor which was then detected. That I did not arrange immediately for an operation on admission of patient, inasmuch as the diagnosis was clear, was due to the hæmorrhage and size of tumor pointing to the death of fœtus, and I thus had reasonable hope of absorption taking place. I concluded that death had occurred in May, at the time of the uterine hæmorrhage, consequently during third month of gestation. Nothing pointed to the necessity for an immediate operation. Pains which were not severe became less daily, and patient's general condition improved. The facts observed at time of operation show my analysis of the symptoms to have been in error, for the size of fœtus and the discovered rupture point unmistakably to the fact that in spite of hæmorrhage the fœtus had continued to develop.

CASE II.—Patient, age 34, married fourteen years, has never been confined. Possibly she may have had a miscarriage during the first year of her married life. Menses which were always normal, appeared for the last time during the beginning of April, 1890. She has never before had any uterine trouble. On cessation of menses, she began to feel badly and suffered from persistent vomiting, more especially after eating. She frequently became very dizzy. Gradually became more feeble and weak. Disagreeable

spasms appeared about the region of umbilicus. Mammæ enlarged and became tender. Bowels were constipated.

In the beginning of May abdomen gradually enlarged in circumference. Patient considered herself pregnant, whereupon she permitted herself to be examined by a midwife who, judging by size of uterus, supposed that she was in her third month of gestation.

In the morning of June 1, without warning, she became suddenly ill, severe pains in hypogastrium, pale to an alarming degree, and lost consciousness for a long time. Severe vomiting the whole day. Pain ceased about noon. Following day, a limited hæmorrhage from vagina, and occasional pains in bowels. June 5 hæmorrhage still continued and did not cease until admission to hospital. The bleeding at times was profuse, with escape of blood-clots; at other times, it was scant. She complained continually of a constant feeling of weight in abdomen. There began in the hypogastrium a dull pain which increased in severity, of a longer or shorter duration. Since the first attack, the lower portion of abdomen became tender, and this gradually increased, as the abdomen enlarged. The patient has been confined to bed ever since the 1st of June. Before admission to hospital, she suffered intensely from constipation and painful urination, accompanied by pain in bowels. In the beginning of June the advice of a physician was sought, who pronounced her suffering as the result of inflammation of the uterus. The examination proved very painful. On June 16 she was admitted to the medical ward of Sabbatsberg hospital, and on the

27 she was transferred to the gynaecological department.

Present condition, July 1, 1890. Patient anæmic to an extreme degree, and appears to suffer intensely. Movement of the body, especially attempting to lie on left side, causes severe suffering. Abdomen only slightly distended; tender on palpation. Over the entire lower portion can be detected a resistance, which in the middle is separated into two portions by a furrow. Of these growths, the right, a rounded tumor, reaches by its upper border fully two finger breadths above spin. ant. ilei. superior, and from here extends deeply backwards; the left nearly one finger above spin. ilei. ant. superior, as well as, to the left to a point midway, between linea. alba. and spin. ilei. The latter appears of firmer consistence than the former. There is a yellowish-brown, foul smelling discharge from the vagina. Upon examination there escaped a large piece of stinking decidua.

Cervix, directed to the right, pushed forward towards the symphysis, and fixed. Uterus enlarged, fixed, lies forward and to the left, and forms the above-named left resistance on the left. The resistance on the right, the size of a child's head, occupies a position deep in the pelvic cavity, and completely fills the posterior fornix. The upper portion is somewhat elastic, but lower down it is hard and firm not sensitive to palpation; temperature, per rectum, 37.2°C. – 38.2°C. ; pulse about 100. During the subsequent days there were no changes to be detected by palpation. Patient had in her bowels severe pains, which two or three times daily increased to the point of shock, from which she complained bitterly. These

attacks could only be controlled by large doses of morphia subcutaneously. Patient was unable to retain food. No movement of bowels without aid. Urine, normal, was voided by means of catheter. Small amount of fever. Temperature, 37.7°C. ; 38.5°C. per rectum. First sound of heart considerably roughened; second sound not distinct.

July 2, laparotomy. While the abdominal incision was being made, and even before the peritonæum was incised, the bladder, whose upper border reached a hand's breadth above the symphysis, was injured. This was repaired by two rows of silk sutures, after which the abdominal incision was extended above the umbilicus. Upon opening the peritonæum a section of small intestine was discovered adherent to abdominal wall, as well as many other coils adhering to the tumor. These could be felt but not seen. The intestines were released with the utmost difficulty, owing to the strong adhesions, fibrous in character. Beyond these there appeared a round, blue-black tumor, which was bound down everywhere by adhesions. While attempting to separate these, a thin membrane which surrounded the tumor ruptured, and a considerable quantity of thin dark-colored fluid and hard coagulated blood poured out. The hand was introduced through the rupture and a mass was found, consisting of hardened blood-clots, with the retained foetus, adhering to the tube. These were removed without difficulty. The tube was ligated. The cavity was cleansed and tamponed with sublimated gauze, until all hæmorrhage had ceased. The abdominal incision was closed in the ordinary manner. The mass removed consisted largely

of hard coagulated blood. Some of the clots were so hard they could be fractured like coal. Among these coagulæ was found the fœtus which was entire and about the size of goose egg. Membranes smooth and translucent. At one point there still remained a piece of placenta about the size of a two franc piece. Fœtus measured 9.5 cm. Index and second fingers on both hands were defective, but in other ways appeared perfectly developed. Among the blood-clots was also discovered a formation which completed the rest of the fœtal sac, with thick walls and lined on the inside by the placenta, and which was directly continuous with the severed tube, undoubtedly the dilated tube.

On completion of operation, our patient was very feeble. Temperature 37.6° C. in afternoon; pulse 98.

July 3. Patient has slept somewhat during the night. Seems to-day extremely ænemic and feels very weak. Has every little while cramp-like attacks of short duration, with marked convergence of eyes, without losing consciousness.

Temperature, 38.8° – 40° C.; 101.8° – 104° F.; pulse, 130–150.

Pains continued. During day spontaneous escape of gas. Small amount of hæmorrhage from vagina.

July 4. Temperature 38.6° – 38.8° C.; pulse 130–148.

July 5. During the night the patient became suddenly very much worse, with stetorous breathing. Respiration very rapid and embarrassed.

Mind dull.

Temperature 39.7° – 38.8° ; pulse 144–148.

July 6, Death.

Autopsy revealed that the cavity,

spoken of at the time of operation, extended forward and to the right of uterus, close to the right unchanged ovary and ligated tubal stump, backward and to the left of a newly developed membrane which was intimately united with the surrounding intestines. It was on the inside, lined with a thin layer of old coagulated blood. No evidence of the formation of pus, or septic infection. Left tube and ovary normal. Rupture in bladder securely sealed.

Heart normal in size, muscles pale and flabby; nothing discovered about valves or endocardium. In both lungs were to be seen fresh points of infarction, not yet undergoing softening. Abdominal cavity bore evidence of chronic peritonitis, but no signs of an acute attack. Pathologist Prof. Wallis expressed it as his opinion that the septic condition antedated the time of operation.

Even in this case the diagnosis of an extrauterine pregnancy was not a difficult one. The general symptoms of gestation were present. The patient supposed herself pregnant. The uterus could be palpated at the side of a round resistance, and the decidual membrane escaped from the uterus.

With the same certainty, as in the first-mentioned case, we may declare this to be a tubal pregnancy. This is partly established by the specimen after operation, showing a direct union of the fœtal sac with the right tube, and partly by the autopsy revealing no changes in right ovary.

Conception had taken place about the first of April. Then June 1 rupture of fœtal sac occurred, with escape of fœtus into fossa of Douglas with considerable hæmorrhage into pelvis, which afterwards became en-

capsulated. At this time a general peritonitis developed. Assuming from size of foetus which corresponded to third month of gestation, the foetus had not died, at time of rupture, but had continued to develop.

In this case I did not hesitate to undertake an operation at once. Patient's condition was so bad, and grew so much worse from day to day, that I saw nothing to be gained by adhering to an expectant plan. I recognized the extrauterine pregnancy as the sole cause, and that through this I had a full explanation for all her symptoms. As the autopsy revealed, the patient died from septicemia. The pathologist's opinion being that it was of an older date than that of the operation.

Thus undoubtedly a portion of the symptoms were dependent upon septic infection. But from whence came this infection? That the pregnant are more susceptible to infection, through the genital canal, is an established fact. This certainly corresponds with the development of the membranes and the increased blood supply to the genitals, during the pregnant state. The same changes which follow a normal pregnancy accompany an extrauterine and carry with it the same danger of infection. Above all is this true when the decidua begins to separate, and the patient is therefore placed in a condition of accouchement. From the first it would appear clear that the same precautions should be taken in the examination of an extrauterine as of a normal pregnancy, but this is not generally done and in the above-named case was entirely neglected. Before the patient's admission to the hospital she was examined frequently, undoubtedly without regard to any antiseptic measures be-

ing taken. After her admission, until the diagnosis was clearly established, she was examined a number of times, without the possibility of infection being considered. Septic changes during extra-uterine gestation are not so infrequent. I recall having seen two such cases. In these the septic phenomena developed at a longer or shorter period after the vaginal, not aseptic, examination had been made. As against these I have seen cases of extra-uterine pregnancy where none, or only aseptic examinations had been made, develop to full term, without symptoms of septic infection. It appears to me reasonably certain that our patient became infected during one of the above-mentioned examinations. This is confirmed by the general peritonitis and fetid discharge from uterus. Naturally it is possible that during such a process as an extrauterine pregnancy, there are other ways for the occurrence of septic infection, yet it appears to me that the way mentioned is a very easy one, against which it is our duty, in every case, to guard as far as possible.

The ætiology of ectopic gestation is, as yet, without doubt, held in darkness. Hecker's statement that the majority of cases of extrauterine pregnancies occurs in the pluriparæ, who after their first confinement remain sterile for a long time, has certainly been confirmed; but any more definite information has not been made. Why, surely, it belongs to the nature of things that such shall be the condition, when the normal process of conception and the subsequent wandering of the ovum through the tube is so little understood. W. A. Freund¹ has certainly maintained

¹ Volk Samml. klin. Vortr. No. 323.

that an imperfect development of the tube, at the time of containing the ovum, bending instead of continuing as a straight tube, must pre-dispose to an extrauterine pregnancy, as well as A. Martin,¹ that a purulent salpingitis may lead to this abnormal condition. But all of this is, as yet, mere hypothesis.

In respect to the anatomy of extrauterine gestation, a more exact step has been taken, in that Schroder's statement that the majority of extrauterine pregnancies are tubal, has been fully confirmed. Through labor of Veit and Werth we now know that the other forms of extrauterine pregnancy are very infrequent.

The method by which a primary abdominal pregnancy occurs is as yet scarcely determined. In both my quoted examples the gestation was unmistakably tubal. The changes following the rupture and hæmorrhage, as well as the necessary tearing during the operation, made it difficult to determine the exact condition, as it must be in general where the specimen is obtained by an operation.

From a diagnostic point of view it seems to me that little progress has been made. It rather appears to demonstrate the extreme difficulty of establishing an exact diagnosis. Among only the fewest cases, where operative measures have been resorted to, according to the literature of recorded cases, has a correct diagnosis been rendered previous to operation. That such should be the case is easily understood when we stop to consider the ill-defined symptoms. The difficulty of establishing an exact diag-

nosis is naturally different at the various stages of gestation; more difficult during the first half of pregnancy than during the latter half. It is even different according to whether the foetal sac is ruptured or entire, or the foetus dead or living. To my mind the most difficult ones are those during the first months of pregnancy, with a living foetus and entire foetal sac. The diagnosis under these circumstances can only be a problematical one. Without the ordinary subjective symptoms of pregnancy and suppression of menses, we have only to support the diagnosis the resistance offered by the side of the uterus. Only by observation for a period after its occurrence, or if you have had an opportunity to manipulate the resistance and can thus follow its growth, can any degree of certainty in a matter of diagnosis be established. Even under these circumstances and with these precautions in mind, I have still been in error in one case, as the following history will prove:

Patient, age 27, married two and one-half years, had never been pregnant. Menses appeared normally for the last time in April, 1887. In June vomiting and pain in bowels. Records of Serafirmerlasaret Hospital, June 27, 1887: Upon examination vulva livid. By abdominal examination there is felt to the right of the middle line, immediately above the symphysis, an obscure resistance. Vaginal examination reveals a normal os uteri, uterus antelected, somewhat enlarged. To the right of uterus and united to it by a smaller part, is felt a limited, round tumor about the size of the uterus, sensitive to pressure. Diagnosis: tubal pregnancy.

¹ Zeitschr. f. Geb. u. Gyn., XII, II.

July 4.—Palpation shows an enlargement of tumor, which now reaches three fingers-breadth above the symphysis. The diagnosis appeared thus confirmed. Patient was advised to enter Sabbatsberg Hospital and submit to an operation, but hesitated. During the latter part of July and early portion of August patient had a number of suddenly appearing and quickly disappearing hæmorrhages, accompanying a feeling of general ill health. She now sought admission to Sabbatsberg Hospital, and was admitted August 9, 1887. The examination then shows, in the right lower portion of the abdomen, a round, smooth resistance, which reaches within two fingers of umbilicus, to the left two fingers beyond the middle line, and to the right midway between linea alba. and spina. ilei. ant. superior.

Swelling elastic and sensitive. Uterus enlarged, pushed to the left, easily palpated, separated from the above-named resistance, only united to it by a small band. Feels badly generally and occasionally has recurring pains in the abdomen.

My conception of the case as one of extrauterine pregnancy was greatly strengthened by the gradual enlargement of the tumor, as well as the hæmorrhage from the uterus. We certainly had observed no escape of any decidua, yet notwithstanding I considered the diagnosis clear. I therefore encouraged the patient to submit to an operation, but she constantly refused, urging that she might be permitted to wait till full term, in spite of the fact that I distinctly pointed out all of the dangers she possibly assumed. She remained afterward at the hospital. During

the entire time she was forced to remain in bed. She was perceptibly tender over abdomen and had periodical attacks of pains, with persistent vomiting.

August 27.—Fœtal sounds were plainly heard.

October 18 she had fever, which rose to 39.6° C. (103.3° F.) and which continued until November 2. At this appeared symptoms of peritonitis. Accompanying this there occurred small contractions in the tumor, and at times it could be plainly felt that it changed places. This naturally awakened a suspicion of doubt as to the correctness of diagnosis of extrauterine gestation; but in the presence of a peritonitis and the very reduced condition of patient, it was certain that her pregnancy was of an abnormal character, possibly a gestation in an incompletely developed bihorn, and everything was prepared for an operation eventually.

December 8, she was delivered of a premature child, which was spontaneously born in the breech position, but which died during delivery.

Here, then, was presented a double uterus, with a pregnancy in the right half. Examination since then, under more favorable conditions, has confirmed this. The uterus is divided into two parts, with the smaller portion extending backward and to the right; while the larger extends forward and to the left. Patient has since then passed through three confinements, of which two have been gestation in the left half and one in the right.

Of corresponding examples a few are given in our literature. Hay¹

¹ Lancet, January 16, 1886, s. 104.

found in a primipara, age 24, who complained for twenty-four hours of severe abdominal pains, a tumor the size of a fist, to the left of the uterus and separated from it. He suspected a tubal pregnancy in the third month. Six days after a hæmorrhage, a four months foetus came away. After this the above-named tumor disappeared and the uterus assumed an almost virginal form. Two years subsequently she was delivered of a child at full term. In the beginning of pregnancy a similar swelling was felt, but during the fourth month it noticeably diminished and the gestation continued normal. E. F. Grun¹ relates a similar case. Hennig² mentions an example, where a tumor, which appeared distinctly separated from the uterus, diminished in size after a twelve weeks old foetus had escaped. After fragments of membranes and colorless decidua had escaped, during the following days a cupful of water came away, after which the swelling almost entirely disappeared. He here assumed a tubal pregnancy, which was delivered through the uterus.

Bache, Emmet³ communicates one case, where he, in a pluripara, whom he had before attended, discovered a tumor by the side of the uterus, and where, for a time, her menses had ceased and were accompanied by symptoms of pregnancy. Diagnosis, extrauterine gestation. After the application of electricity a number of times, for the destruction of the child, the foetus came away entire, and a few hours afterwards the decidua es-

caped. Emmet here assumes a tubal pregnancy which was delivered through the uterus. Reichard¹ places himself in opposition to this view and cites a case where he had all the signs of a tubal pregnancy and where he had all the preparations made for an operation at full term or in case of premature rupture. Suddenly all symptoms disappeared, and a week later a child at full term was born.

To avoid the above-named mistakes in this class of cases, where we can feel that a double uterus is located, is not difficult. Of this I have had a number of opportunities of satisfying myself, but in these examples where this anomaly exists without being detected a differential diagnosis between an intra and an extrauterine pregnancy, during the first months, becomes impossible. Only when a person can palpate the ovary to the outside of what represents the foetal swelling is there any possibility of making an exact diagnosis.

The management of ectopic gestation has, without doubt, through much valuable experience, made the greatest advancement in that these cases of extrauterine pregnancies have become more accessible to operation. Methods have always been different according to whether it was a pregnancy during the first months or whether further on, and such is the case at present, yet with this exception that where before operative measures were only resorted to for the advanced cases, it has now been made clear that those which before were considered *noli me tangere* now give us the best results. It is properly through Veit and Lawson

¹ Trans. Obst. Soc., London, 1886, No. 306.

² Grigref. Centralbl. für Gyn., 1886, No. 12, s. 204-7.

³ Tubal Pregnancy, etc., American Jour. of Obstet., 1890, July, p. 750.

¹ American Jour. of Obstet., 1890, p. 965.

Tait that we have attained this end. The former taught us the possibility, after an exact diagnosis, of extirpating a pregnancy during the first months, before rupture has occurred, and the latter, that we are even warranted, after rupture has taken place and the patient nearly dead from hæmorrhage, in making so severe an operation as a laparotomy.

To-day, no one can deny that under certain circumstances operative measures for extrauterine pregnancy are fully indicated at whatever stage; but to assume as Werth¹ wishes to maintain that every diagnosticated case of extrauterine pregnancy stands in the same relation as a malignant growth and must necessarily be extirpated, appears to me too far-fetched. Every case of extrauterine pregnancy need not necessarily have a fatal termination. Even at times these symptoms are of little importance. Such an example I have had an opportunity of observing.

Patient, age 28, married four years, never pregnant, has always had menses monthly and normally. Last menstruation during the first part of November, 1887. Subjective symptoms of pregnancy being present, patient considered herself pregnant. January 15, 1888, sudden severe pain, abundant hæmorrhage, with discharge of a lump which patient considered to be a fœtus. Upon examination, on the 19th, the uterus could be felt of normal size, antelected and movable. Os uteri slightly dilated. To the right and back of uterus could be outlined a rounded, well-defined, somewhat elastic tumor about the size of a

small fist. The lump which came away was found to be a decidua, representing the entire interior uterine cavity. Patient's general condition good. Tumor gradually reabsorbed without any untoward symptoms, and by July 17, 1888, was found to have completely disappeared.

That we here had an extrauterine pregnancy can scarcely be doubted. Fœtus, from some cause or other, had died, after which the decidua had escaped and fœtus became absorbed. Naturally no indications for any operation existed.

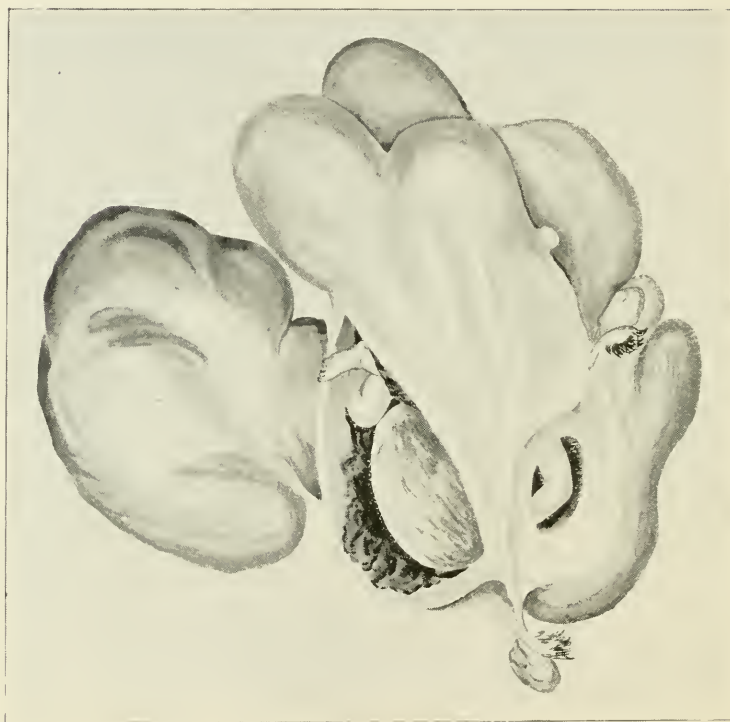
The termination of each case is not the same, consequently we must not deal with all alike, more especially since such measures carry with them considerable risks; but we should rather individualize each separate case. When a threatened danger in a pregnancy arises, either from a rupture or the patient's general condition, then only are positive indications to be found. This is always the condition so long as the gestation is in a state of development, whether it is before or after rupture has taken place and even after the death of the fœtus, when it points to a continued development, rendering absorption impossible.

As against this, if during the first three months the fœtus from one cause or another has ceased to grow, either before or following a rupture, so that we had no direct danger in the abnormal condition, then it appears to me that simply on the basis of an extopic pregnancy, an operation is not indicated.

Opinions in these cases are very much divided. The same views as I have here expressed are entertained

¹ Beiträge zur Anatomie und zur operativen Behandlung der extrauterine Schwangerschaft, Stuttgart, 1887.

PLATE I.



COMPLETE ABDOMINAL HYSTERECTOMY.

Uterus opened showing fœtus. 1. Fibroid under liver, right side.
2. Vaginal opening.

by Veit in his valuable monograph.¹ As against these views Howitz,² and Meyer,³ with others, have expressed themselves with Werth, the former even before him.

In regard to an operation during the latter stages of a pregnancy, experience has demonstrated that we must not expect a living child, as children very seldom survive in cases of extrauterine pregnancy. For this reason Olshausen⁴ maintains that in the interest of the mother we must operate as soon as possible, because every delay is fraught with danger and with intraligamentary development, which causes an increase of the severity of an operation.

If the case comes under observation about the close of gestation and with a viable child, we do not wait for the death of the child, but operate as soon as possible. These are conclusions

which seem to have come as near right as possible.

In dealing with a dead child, we ought to wait for the time being at least eight to ten weeks in order to allow complete thrombosis of the placenta and thus be enabled to completely extirpate the foetal sac, which we naturally aim to accomplish, and which Olshausen considers possible in the majority of cases, even if there is an interstitial development of the pregnancy.

A practical point of importance is, without doubt, the advice given by Lawson Tait and Olshausen, that with a present hæmorrhage, whether before operation, following a rupture of the foetal sac, or during an operation, in an attempt to enucleate we should hastily ligate the ligament, lat. close to the uterus, and in this manner secure the uterine and spermatic arteries.

Complete Abdominal Hysterectomy—Report of Two Cases.

BY I. S. STONE, M.D.,
WASHINGTON, D. C.

CASE I.—Mrs.——, colored, entered Columbia Hospital in the latter part of May, 1892. She gave a very indefinite account of her age, and as her menses ceased some months previ-

ously, was thought by the visiting staff to be at least 50 years of age. Her abdomen was enlarged by a tumor which reached the ensiform cartilage and extended far up under the ribs on each side. The os uteri was far up under the pubis, and could be reached with great difficulty on account of a tumor filling the pelvis and pressing the uterus upward. After consultation the consensus of opinion favored fibroid rather than

¹ Die Eileiterschwangerschaft, ein Beitrag zur Pathologie und Therapie desselben.. Stuttgart, 1884.

² Extirpation av et Tubarsvangers kap, Helbredelse, Gyn. og Obstr. meddelser B. V. h. 3, s. 258.

³ Zur operativen Behandlung der Extrauterinschwangerschaft. Zeitschr. für Geb. u. Gyn., B. XV, 1.

⁴ Über Extrauterinschwangerschaft mit besonderer Berücksichtigung der Therapie in der zweiten Hälfte der Schwangerschaft, Deutsch. med. Woch., 1890, No. 8, 9, 10.

ovarian tumor, and upon this hypothesis the operation was done June 29. Operation completed in one hour. The pelvic operation was not difficult as the tumor in the pelvis had pushed up the uterus, thus greatly stretching the broad ligaments and vagina, which were easily tied off without even requiring the Trendelenburg position. The upper portion of the vagina was everted—the ligatures first drawn downward—and then closed with catgut. The tumor was quite adherent in the pelvis on the left side, requiring some force in its extraction, and in the region of the liver much damage was done to the mesentery of the large intestine, which had adhered over a large area. The tumor was easily separated from the under surface of the liver and with but little hæmorrhage from that organ, but not so with the mesenteric attachments. Right here the doubt arose as to the propriety of attempting to ligate all bleeding points, and of neatly closing and approximating all torn surfaces. It was thought an impossibility in view of the condition of the patient, and reliance was placed upon the usual flushing with hot water (110°). This did not save the patient, for she died of shock soon after the beginning of the third day. At the autopsy several ounces of blood (3 or 4) were found under the liver and over the right kidney, which had proceeded from the injured mesentery above mentioned. Slight adhesion of intestines to site of former adhesions in left pelvis and under the abdominal incisions. Her bowels had been moved fairly well by stimulating enemas. Pelvic drainage from glass tube not great in amount, scarcely as much as in ordinary hysterectomy.

The most interesting feature occurred when the specimen (which weighed twenty pounds) was examined, and was found to contain a four months' old foetus, the existence of which had not been suspected. The cut should show a mass on the right side nearly as large as that on the left, although this outgrowth did not complicate the operation at all.

There can be no doubt as to the necessity for operation in this case, although the writer must admit the "bad surgery," which unfortunately resulted in the death of the patient. It would have been an impossibility for the foetus to have been delivered at any time even by embryotomy, and any surgeon with knowledge of the existing pregnancy would have preferred a Porro or entire hysterectomy. That the operation was not successful should not prevent a similar operation being successful in another patient. The patient died because of injuries to abdominal viscera, and not from pelvic surgery required in complete hysterectomy.

CASE II.—Mrs. W., aged 30, came under my care first in July, 1891. She had an intra-mural fibroid as large as an orange, which was easily removed. The hæmorrhage, which had been previously severe, was promptly relieved by this operation, and the uterus remained at, or nearly at normal size until in February, when an increase in size was noted. In April and May additional fibroids were removed, when it was found that the new growth was sarcoma. At the time set for operation, July 13, the growth could easily be felt almost as large as a child's head above the pubis.

Abdominal incision to umbilicus in

Trendelenburg posture. The growth appeared to be size of uterus at fifth month of pregnancy. The operation was without special difficulty. The broad ligaments were readily tied off, there were no adhesions to omentum, intestines, etc. The bladder was easily recognized and separated without injury. The mass weighed somewhat less than three pounds. A finger of an assistant served to indicate the utero-vaginal junction, and hence Eastman's staff was not required. The ligatures on the Fallopian tubes and upper portion of broad ligaments were cut short. Those lower down including lower uterine arteries, were

turned down into the vagina and the opening made by removal of the uterus closed with catgut sutures. Gauze strips were placed across the pelvis in front and back of the broad ligament line, and brought the lower angle of abdominal wound. A drainage tube of glass placed between these down to the everted vagina. These drains did perfect work, and were removed at the end of two days. Her recovery has been uneventful; the greatest annoyance was due to nausea. The pulse during first week ranged between 70 and 86. Temperature 99° to 100°. Bowels and bladder gave no anxiety whatever.

Hæmatocele of Ovary, Chronic Ovaritis and Salpingitis.— Hydatidiform Mole. Report of Cases.

BY G. FRANK LYDSTON, M.D.,

CHICAGO.

Professor of the Surgical Diseases of the Genito-Urinary Organs and Venereal Diseases in the Chicago College of Physicians and Surgeons.

MRS. H., aged 28, was comparatively healthy until four years before coming under my observation, when she began to suffer from menstrual disturbances, chiefly characterized by irregularity and extreme pain. At times menstruation was excessive. At about this time she was treated for what was evidently an endometritis, a condition which has persisted ever since with more or less acute exacerbations from time to time. There have occurred occasional attacks of what was evidently pelvic peritonitis, which necessitated confinement to bed. At

intervals of several months severe spasmodic attacks of pain have occurred in the ovarian region from either side, these attacks being attended by considerable soreness of the lower portion of the abdomen. After lasting for some days the pain would suddenly cease, its cessation being attended by a purulent discharge from the vagina. Walking finally became so painful that the patient was disabled for the greater portion of the time. There was no history of infection as a cause for the trouble; the patient had been treat-

ed by a variety of methods, very vigorous efforts having been made by several practitioners to correct a slight retroversion and to cure the endometritis. The uterus was extremely intolerant of all manipulations, and as the patient expressed it, "the more applications to the womb, and the more pessaries tried, the worse her case became."

On examination I found the uterus slightly retroverted, somewhat enlarged, congested, and excessively tender, with a discharge characteristic of chronic endometritis. There was extreme tenderness over the ovaries, and the uterus was fixed by adhesions. The distended tubes could be obscurely felt. Taking into consideration the history of the case and the skillful hands through which the patient had already passed in connection with the local conditions discovered, and seeing no hope or benefit from the ordinary measures of treatment, for, as the lady herself expressed it, she was "a burden to herself and those about her," I suggested a laparotomy and removal of the appendages. After the usual preliminary measures of preparation, I operated, with the assistance of Drs. Broel, and G. W. Reynolds. There were no interesting features in the operation, save that the patient was excessively fat, and the appendages being tightly bound down to the pelvic floor by adhesions, it was with extreme difficulty that I was able to detach them. There were evidences of old pelvic peritonitis, the right ovary had degenerated into a thin-walled sac, retaining the shape of the normal ovary, and about the size of a horse chestnut. This sac contained disorganized fluid

blood, and a mass of hæmatoidin crystals the size of a pea, being evidently an old hæmatoma. The ovarian tissue proper had entirely disappeared, the sac being formed by the proper fibrous coat of the ovary. The opposite ovary (left) showed evidences of chronic interstitial inflammation, being shrunk to perhaps two-thirds of the size of the normal organ and of a very hard and fibrous consistency. Both tubes were dilated, and greatly thickened, and contained a small quantity of sero-purulent fluid. The recovery of the patient was uneventful, and the result was all that could be wished for, the patient being able to attend to her household duties and get about with perfect freedom and comfort. The endometritis, however, has not been benefited by the operation.

HYDATIDIFORM MOLE.

I was called by Dr. W. S. Walker, of Chicago, to see a case of supposed abortion during the time that the doctor was absent from his patient. A very profuse hæmorrhage had come on, and when we arrived at the house the woman was in an almost exsanguinated condition. I hastily tamponed and then proceeded to get the history of the case. I was informed that she had been married three months and had become pregnant immediately after marriage. No history of syphilis in either husband or wife. On examination I found the uterus enlarged to about the size of the fifth or sixth month of pregnancy. I immediately accused the husband of having told me a falsehood, but he insisted that everything was just as it should be. After further examination and manipulation, I removed the tam-

pon and proceeded to empty the uterine cavity, and found that I had a case of so-called uterine hydatid. I scraped away with the curette enough of the characteristic currant-like material to fill an ordinary hat. After the uterus was completely emptied, I swabbed it out thoroughly with compound tincture of iodine, then irrigated with a hot solution of the same drug. This irrigation was, by my direction, repeated several times during the following three days. The patient made a very tedious recovery on account of the great loss of blood. There was no hæmorrhage, and no fever following the curetting.

It may be interesting to note that our knowledge of the causes of hydatidiform degeneration of the chorion and the formation of so-called hydatid mole is not very definite. Corporeal endometritis had been advanced as the cause of this condition. Personally I do not believe the existence of endometritis has anything to do with the formation of moles. In the first place, corporeal endometritis is frequently more imaginary than real. Our modern laparotomists are to-day curing many cases of corporeal endometritis by extirpation of pus tubes. It is a question in my mind whether, in the presence of a severe endometritis, it would be possible for spermatozoa to live long enough to impregnate the ovum, and certainly the ovum would be either likely poisoned by the acrid secretions of the endometrium, or else it would fail to find lodgment

and be washed away. In order that a mole may develop it is necessary for the ovum to become lodged at some point and to form an attachment to the endometrium. The development of the ovum, on the one hand, into a healthy embryo, and on the other, into those blighted formations which we term moles of various kinds, depends upon the intrinsic vitality of the ovum itself, provided circumstances are favorable to any kind of development of the ovum, and this question of intrinsic vitality is settled before the ovum leaves the Graafian follicle. The propensity of vicious development in the case of the ovule, which propensity results in the formation of a mole, is in my opinion precisely the same as that which Cohnheim describes in the case of imprisoned embryonic tissue which develops into cancer. It is a biological law that, in inverse proportion to the degree of differentiation of cells and tissues is the rapidity of development and tendency to degeneration. This law explains the relative rapidity of development of some of the uterine moles. It may be heretical, but it nevertheless seems to me to be logical to assume that the intrinsic cause of uterine moles is not a pathological condition of the uterus, but a fault of vital structure of the ovum itself. Constitutional conditions bear a much more important relation to the development of degenerated conditions of the ovum than do local conditions.

Vaginal Total Extirpation of the Uterus, on Account of Carcinoma and Sarcoma.

BY R. KRUKENBERG,

*Assistant Physician in the Royal University Clinic for Women at Berlin,
under the direction of Professor Olshausen.*

THE vaginal total extirpation of the uterus on account of malignant degeneration is now a generally recognized and ordinary gynecological operation in Germany, while the sacral, parasacral and perineal methods of removing the whole uterus have as yet been found satisfactory by only a small number of operators and are only employed by them in a limited number of cases.

Total extirpation is indicated in general whenever it is practicable to perform it, although most operators add the condition that the operation must insure a radical removal of the diseased tissue. There are no longer any fundamental differences in the technique of vaginal hysterectomy, although, to be sure, almost every operator differs from the others in more or less important particulars. With the perfection of technical methods the primary results are continually improving; concerning the final results there exist at present few statistics of considerable numbers of cases, but these show by their agreement that a radical cure is possible and that, too, in a percentage of cases which is more favorable as to complete recovery than in similar diseases of any other organ.

In the Clinic for Women at Berlin vaginal hysterectomy has been practised for the last twelve years; since at various times the results which

have been obtained have been the subject of thorough investigation, conclusions drawn from the latter seem no longer premature and therefore permissible.

Since May 17, 1880, and up to April 30, 1891, this operation has been performed on 239 women with success as far as concerns *primary* results, and the subsequent fate of all these women has been learned by frequent examinations, with the exception of five cases who never could be found. Out of the whole number of patients 128 were examined last year at the clinic; concerning nineteen reports have been received from the family physicians; the causes of death in fifty-seven were ascertained by the certificate of death; thirty patients gave information by letter, making 234 in all. On the average the percentage of women suffering from malignant diseases of the uterus formed 3.1 per cent. thirty-seven per cent. of the whole number of patients treated at the institution; during the last five years radical operations, *i.e.*, vaginal total extirpation, supra-vaginal amputation, laparo-hysterectomy or supra-vaginal amputation by laparotomy, could be performed on 31.6 per cent. of these malignant cases. Carcinoma colli furnished 91.7 per cent.; Cancers of the corpus, 6.2 per cent.; Sarcoma of the corpus, 1.9 per cent.; Sarcoma of the portio vaginalis.

furnished 0.1 per cent., of all the cases of malignant diseases of the uterus which were observed within the space of time mentioned above.

Since it is known that a permanent cure is more probable the earlier the operative assistance is furnished, the *diagnosis* must not be awaited in doubtful cases to be determined *ex juvantibus et nocentibus*, but must be ascertained by microscopical examination of fragments which have been excised or removed by the curette. In order to decide whether the operation can be performed the condition of the pelvic connective tissue, and the mobility of the uterus, must be ascertained by examination by vagina and rectum. Vaginal total extirpation was performed by Olshausen during the last four or five years in all cases of malignant disease of the uterus in which the operation seemed to be surgically practicable, and in which it appeared probable that the whole of the diseased tissue could be removed. Supra-vaginal amputation was only employed in cases of the very earliest incipience of carcinoma of the portio vaginalis, although this operation was used by Schroeder up to 1889 in most cases of cancer of the vaginal portion. From May 1, 1887, to May 1, 1891 there were 186 total extirpations and only nineteen supra-vaginal amputations.

Total extirpations, which were designedly only *palliative*, were not performed, since relapse is certain and then the operation seems to have shortened life rather than to have prolonged it; according to our experience the relapse led to death after periods varying from one month to two years, reckoning from the day

when the recurrence was noticed, and out of thirty-six cases there were only six where life was maintained more than one year.

In spite of the above mentioned principle of operating twenty-five cases were operated on during the last five years, in which the carcinoma was not limited to the uterus or to such parts of the vagina around it as could be removed. Usually it was supposed, before the operation, that the thickening of the parametria might be inflammatory, although at the operation it proved to be carcinomatous, or there was an unsuspected invasion of the bladder by the new growth.

The *preparation of the uterus* for total extirpation is still subject to certain variations. Although *a priori* it seems indispensable to remove all gangrenous and soft portions of the growth by thorough scraping with the sharp spoon several days before the operation, in order to prevent the introduction of putrefactive bacteria and cancerous particles into the blood-vessels and lymphatics of the parametria, which are opened during the operation of vaginal hysterectomy, and especially in order to gain exact information as to the extension of the new growth. Unfortunately, however, several cases treated in this way gave no encouragement to make the preparatory operations so extensive or to perform them so early, for although the strictest asepsis was used in these cases they became unsuitable for the subsequent operation, on account of consecutive parametritis, or at least they had fever for a long time. At present the patient is prepared for operation by regular vaginal douches of a one per cent. to

one and a half per cent. solution of lysol; immediately before operation, after thorough disinfection, all friable and gangrenous tissue is removed by the curette, as far as it is possible to do so without cutting with the instrument as with a knife. The scraped surface is further treated by scorching it with Paquelin's cautery, or by swabbing it with concentrated tincture of iodine, or with an alcoholic solution of sublimate, 1 : 500. If the patient was already curetted when examined some days *previously*, in order to determine whether the case was *suitable for operation*, the scraped surfaces are simply made as dry as possible by application of powdered benzoate of soda. If it is suspected that there is pus in the uterus the customary measures of *disinfection*, such as shaving the pudenda, cleansing with soap and brush, application of a solution of sublimate 1 : 1000 or of carbolic acid three per cent. to the parts to be operated on, are extended to the uterine cavity, which, immediately before the operation, is closed off by some interrupted silk sutures passed through the vaginal portion.

Among preparatory measures is to be classed bilateral incisions through vagina and perinæum, directed toward each tuber ischii, in case the vagina is virginal, atrophic or narrowed by cicatrices, and where the passage to the uterus is not large enough without these incisions.

Olshausen read a communication at the Tenth International Medical Congress (August 5, 1890), concerning the *method of operating* which he now employs, and the following statements are in accordance with his article. Olshausen distinguishes four parts of the operation :

- (1) The incision around the cervix.
- (2) Separation from the neighboring tissues without cutting.
- (3) Securing the broad ligaments.
- (4) The treatment of the wound in peritonæum and vagina, and of the stumps of the ligaments.

The perinæum is retracted with a speculum having a short broad blade, and the *incision around the cervix* is made at the greatest possible distance from the new growth, and sometimes where the carcinoma has invaded the vagina a large flap of the latter is also removed. No arteries need to be tied except the larger ones, and as a rule it is not necessary to ligate any vessels when the incision is made quickly and the second part of the operation is performed at once. This consists in *freeing the cervix* from the neighboring parts, and if the incision has been deep enough, reaching to the cervical tissue, this can be done with the finger-nail and knife-handle, mostly without cutting or using the knife-edge very little; the separation is to be continued until the peritoneal surface appears ready for incision, anteriorly and posteriorly, or at any rate until the bladder and the ureter is pushed up so far that they will not be caught in the lower ligatures. Any doubts on this subject are removed by the introduction of a catheter or sound into the bladder. If during the bloodless separation the rare misfortune of tearing the bladder occurs, the rent is to be closed at once with continuous catgut suture.

The *securing of the broad ligaments* is accomplished by successive ligatures, without retroverting the uterus; the only displacement of this organ is downwards towards the outlet of the pelvis, and depends on traction with

vulsella. *Before the application of the lowest pair of ligatures the space of Douglas is opened* with scissors, and a tampon of iodoform gauze is introduced into the peritoneal cavity to keep back the intestines. The previous opening of the space of Douglas is considered of the greatest moment, since the important lowest ligatures are thereby placed more securely and the operation is rendered much less bloody. The lowest ligature on each side is introduced with a long, dull-pointed aneurysm needle curved on its long axis like a swan's neck, passing forward from the space of Douglas; afterwards, whichever ligament is found to be most elastic is ligated, step by step, in a similar manner.

After the application of the second or third ligature the peritonæum of the vesico-uterine fold can as a rule be opened, and the succeeding ligatures can be brought out through this opening; in order to be able to draw the end of the ligatures out of the eye of the needle conveniently we use a strongly curved dull hook, with a long strong handle. If one of the ligaments is thickened or suspected of malignancy it is ligated most easily after finishing the other ligament, by using a common aneurysm needle, working from above downward. The ligatures can then, since the uterus is free on one side, be applied nearer the pelvic wall on the other side, and sometimes it is possible to replace the lowest ligature on this side, which was applied in the beginning, by another passed nearer the pelvic wall.

The number of ligatures on each side of the course varies according to the size of the uterus and the condition of the appendages, but it is usually four to five for each ligament.

Since March, 1890, the material which we use for ligatures is a large size of *Juniper catgut*, which has given results satisfactory in every respect. The first case of secondary hæmorrhage, since the exclusive use of catgut, occurred in June last, on the tenth day after the operation, and it could therefore be hardly charged to the material used for ligatures. The only precautions requisite are the use of a good quality of catgut, rigid asepsis, the ligatures to be plenty long enough, and the knots to be made triple.

The last part of the operation, the *treatment of the wound and of the stumps of the ligament*, has been variously modified in different years, but at present is definitely settled. While until September, 1888, Olshausen left the space of Douglas open, and tamponed the wound loosely with iodoform gauze, after that time he united the peritoneo-vaginal wound by continuous catgut suture, including the stumps, which were drawn down into the vagina as far as the uppermost ligature, which secured the tube. After the fixation of the first stump, of course the iodoform-gauze tampon, which kept back the intestines, was removed. Between March and November, 1890, the experiment was made fourteen times of dropping into the peritoneal cavity the stumps of the ligament secured with catgut. Of these women one died of acute peritonitis originating in the gangrenous stump on the right side; in three other women an abscess broke into the vagina after previous manifestations of fever or peritoneal irritation; convalescence was undisturbed in ten women; in eight cases the vaginal wound united by first intention without a trace of se-

cretion. In accordance with these successful results, the *stumps were not returned* into the abdominal cavity after November, 1890, but the broad ligament was still secured with catgut ligatures, as a rule. The ligation with catgut entirely avoids the removal of the ligatures weeks after the operation, which would otherwise be necessary, and thereby makes it possible to dismiss at an earlier period those patients who live at a distance. The necessity of *securely closing the wound and fastening in it the ends of both stumps, brought down into the vagina*, is also clearly demonstrated by five cases of ileus after vaginal hysterectomy in which an obstruction of the small intestine occurred, due to a sharp angle, where it was adherent to the open wound; it is also shown by the results of the autopsies performed during the last four years. These showed that out of nineteen cases of peritonitis after operation, the space of Douglas had been left open nine times, while the wound had been closed seven times; in three cases there was no note on this point.

Of the cases where the wound had been closed there was one where a stump had been intentionally left in the abdomen and had become gangrenous, and one where such a stump on one side had slipped back.

At the conclusion of the operation the long ends of the ligatures on the stumps are cut off, the line of sutures is powdered with iodoform and a strip of iodoform gauze, which is to be removed on the third day, is placed in the vagina. The bladder is emptied with the catheter, and if the contents are clear, it may be assumed that the organ is uninjured.

The *subsequent treatment* consists

of rest in bed and liquid diet for the first five days. Opium is only administered when there is pain or symptoms of peritoneal irritation. On the 5th day the bowels are moved for the first time, by enema or by castor oil; if there are local processes of infection, it is not necessary to move the bowels until these have subsided. The patients leave the bed on the 15th or 16th day after operation, and are usually permitted to go home on the 20th or 21st day. Vaginal douches and examinations are omitted as far as possible during this time; on the day of departure any loose and gangrenous particles of the stumps which may be present are to be carefully removed through the speculum.

The *primary results* and the final *results* of vaginal total extirpation of the uterus are best classified separately with regard to carcinoma of the collum and of the corpus uteri, as well as for sarcoma of the uterine body.

From May 17, 1880, to October 1, 1885, 46 total extirpations were performed on account of carcinoma colli; of these 46 women, 12—26.1 per cent.—died in consequence of the operation; between October 1, 1885, and May 1, 1891, there were 197 total extirpations on account of cancer of the cervical portion, with a mortality of 25 or 12.7 per cent. *Altogether, therefore, out of 243 cases, there died 37, or 15.2 per cent.* Since the favorable incipient cancers of the vaginal portion were treated by *supravaginal amputation*, the mortality of these operations is added to the above; this gives then for the whole period, from 1878 to May 1, 1891, 398 cases of carcinoma colli, with a mortality of 47, or 11.8 per cent., and for the time from Oc-

tober 1, 1885, to May 1, 1891, 241 radical operations, with a mortality of 25, or 10.7 per cent. Even better primary results were obtained by other German operators; thus Kaltenbach,¹ out of 60 total extirpations, lost 3.3 per cent.; Leopold,² out of 80 cases, lost 5 per cent.; Schanta,³ out of 55 cases, lost 9.1 per cent., and Fritsch,⁴ out of 103 total extirpations, a mortality of 9.7 per cent. Of the 25 fatal cases at our clinic since October 1, 1885, 19 were due to infection, and of these 17 died during the first week of acute peritonitis; one woman died after twenty-six days from pyæmia, one of septic peritonitis after laparotomy, performed on account of ileus; two deaths were due to shock and hæmorrhage respectively, ten and twenty-four hours after operation. Three women were lost on account of fatty heart, one died during a laparotomy undertaken on account of ileus.

In the 1st year out of 200 cases 82 or 41 per cent. suffered from recurrence.

"	2d	"	"	88	"	22	"	25	"	"	"	"	"
"	3d	"	"	47	"	6	"	12.7	"	"	"	"	"
"	4th	"	"	28	"	2	"	7.1	"	"	"	"	"
"	5th	"	"	9	"	1	"	11.1	"	"	"	"	"

After the fifth year no recurrence was noticed either in the cases of total extirpation nor in those treated by supravaginal amputation. The exceptions noted by Pawlip⁵ and Fruenkel,⁶ who observed recurrences

Among the *complications* which have an unfavorable influence on the primary results, one of the most important, is *pyometra*, which was the cause of the fatal termination in four out of six cases in which it was present; particularly the unexpected discovery of pus in the uterus during the operation is responsible for the mortality, since in the cases of carcinoma corporis, where the pyometra was discovered beforehand, a safe disinfection was attained by means of thorough irrigations.

The *final results* in the case of 206 women who survived the operation were as follows: Five disappeared after leaving the hospital, a sixth was lost sight of after being certainly free from relapse for three years, six died from other diseases without recurrence of the cancer, two in the first year, and one each in the second, third, fourth and fifth year after the operation.

on the sixth and eighth year respectively, after galvanocautic amputation of carcinoma of the vaginal portion, are hardly of much practical significance, and *definite cure* may be dated from the *fifth year after operation*.

Altogether out of 193 women whose cases are here under consideration, 113, or 58.5 per cent. suffered from recurrence.

They were *free from relapse*

After the end of the 1st year 110 out of 188 cases or 58.5 per cent.													
"	"	2d	"	63	"	141	"	44.7	"				
"	"	3d	"	42	"	112	"	37.5	"				
"	"	4th	"	26	"	88	"	29.5	"				
"	"	5th	"	9	"	51	"	17.6	"				

¹ Testschrift für Hegar, 1890.

² Archiv. für Gynæk., Band XXXVI.

³ Berliner Klinik, Fischer's Buchhandlung, 1891.

⁴ Archiv. für Gynæk., Band XXXIV.

⁵ Wiener Klinik, 1882.

⁶ Centralblatt für Gynæk., 18, o, No. 45.

At the last examination, in July and August, 1890, there were found free from relapse one woman after eight years, one after seven years and two after six years. Only those were reckoned as free from recurrence who either were proved to be healthy by medical examination or who reported by letter that they were entirely well and without any local symptoms. All doubtful cases were recorded as relapses. The *whole number*, which is considered in computing the per-

centage of cures, comprises only the number of those who were operated on, and whose fate could be ascertained during the period stated in the table, that is to say, those who neither died of the operation nor were lost sight of. If the final results of *supra-vaginal amputation* are added to those of total extirpation, the following figures are obtained.

They were free from relapse after radical operations.

After the end of the 1st year 186 out of 320 cases or 58.1 per cent									
"	"	2d	"	125	"	264	"	47.3	"
"	"	3d	"	86	"	230	"	37.4	"
"	"	4th	"	60	"	200	"	30.	"
"	"	5th	"	36	"	149	"	24.2	"

The *definite cures* in our cases of *carcinoma colli*, are, therefore, 24.2 per cent., of those on whom radical operations were performed.

An attempt has been made from a study of the cases at our disposition to determine the factors which influence the final result favorably or unfavorably. Besides *extension of the carcinomatous growth*, the most important factor appears to be the *form of the cervical cancer*. By comparison of the cases which remained healthy for at least two years, with those which suffered from relapse during that time, I have been able to construct the following *table of malignity*:

(1) Incipient carcinoma of cervical mucous membrane, relapsed in 33.3 per cent. of the cases.

(2) Flat cancroide (epithelioma) of the vaginal portion, relapsed in 36.4 per cent. of the cases.

(3) Small cauliflower growths of the vaginal portion, relapsed in 42.4 per cent. of the cases.

(4) Advanced carcinoma of cervical

mucous membrane, relapsed in 58.8 per cent. of the cases.

(5) Carcinoma of the cervical tissue (infiltrated carcinoma of cervix), relapsed in 60 per cent. of the cases.

(6) Large cauliflower growths of the vaginal portion, relapsed in 62.5 per cent. of the cases.

(7) Deeply ulcerated cancroide of the vaginal portion, with invasion of cervical substance, relapsed in 80 per cent. of the cases.

Of eighteen cases in which the *tissues of the broad ligament* were found at the operation to be partially *invaded by carcinoma*, two died of the operation and all the others suffered from recurrence. *Extension of the carcinoma to the vagina*, which was observed thirty-five times in the last five years, gave a percentage of 55.2 of *relapses*, which is below the general average of 58.5 per cent. Carcinoma of the cervix, occurring during pregnancy and coming under treatment while *still operable*, offers a prognosis by no means very bad in regard to

final cure, but there is not much chance that carcinoma during pregnancy will give an opportunity for operating in season. Of six women belonging to this category, one died of peritonitis after the operation, one had a recurrence of the disease within the first year, the others have remained free from relapse one, one and a half, two and four years respectively.

In regard to *age* I could detect a slight excess of recurrences in the women who had cancer of the cervix and who were under the age of 45 years, over those in women who were above this age; but I did not find that the previous occurrence of many labors had any importance as increasing the possibility of relapse.

For *carcinoma corporis uteri* Schroeder always performed supravaginal

amputation of the uterus by laparotomy or laparo-hysterectomy up to April, 1886; from that time until May 1, 1891, *vaginal total extirpation* was performed twenty-nine times; three women, or 10.3 per cent., died in consequence of the operation, two of peritonitis, the third of shock, as she was affected with chronic myocarditis. Four cases complicated by *pyometra* recovered well owing to prophylactic disinfection and stitching up of the cervical canal. In the course of the first year after operation one woman died of heart disease without recurrence of the cancer; in the *first year* seven, or *twenty-eight per cent. suffered from relapse*. After this period no recurrence of carcinoma corporis was observed, so that the percentage of *final cures*, according to the single years, was as follows:

After 1 year of 25 cases of carcinoma corporis 18 or 72 per cent.

"	2	"	15	"	"	"	13	"	86	"
"	3	"	12	"	"	"	9	"	75	"
"	4	"	10	"	"	"	7	"	70	"
"	5	"	5	"	"	"	4	"	80	"

The primary consequences and the final results are therefore decidedly better in cases of carcinoma corporis, than in those of cancer of the cervix. Among those who remained healthy were three cases in which the cervical canal was implicated in the new growth, and two in which the carcinoma had infiltrated the uterine wall quite to the serous covering. Of the seven relapses three occurred in cases where the carcinoma extended diffusely over the uterine mucous membrane, two were carcinomatous tumors, and in two a diagnosis of malignant adenoma had been made. In one of these last two there was a metastasis in the cervix, which had invaded the left parametrium; in the

other the adenoma had profoundly infiltrated the muscular tissue of the uterus.

Late recurrences of carcinoma corporis seem to be rare, for among those removed by laparohysterectomy there was only one recurrence after five years; therefore the women who remain free from relapse for two years are to be regarded as *permanently cured*.

The women who were past middle life (53.7 years) had a better prognosis in regard to permanent cure than those who were relatively younger, for of the first 27.2 per cent., and of the last 45.7 per cent. suffered from recurrence. It was not possible to detect any relation between the number

of previous births and the frequency of recurrence of carcinoma corporis.

Sarcoma corporis uteri furnished occasion for the performance of vaginal total extirpation in eight cases between October 1, 1885, and April 30, 1891. In six cases the sarcoma appeared as a uterine polyp; in three cases polyps had been removed from one to six years previously, which had proved to be of benign structure at first and had afterwards undergone malignant degeneration. The mor-

tality in consequence of operation was 25 per cent, or two cases; pyæmia caused one death after twenty-one days, acute peritonitis occasioned the other. In both these operations the space of Douglas was left open.

Of the six women who survived, four, or 66.7 per cent., suffered from recurrence of the disease within the first half-year after the operation; there was no later relapse in the other two cases.

They were free from recurrence—

After the lapse of 1st year, out of 6 cases of sarcoma corporis 2, or 33.3 per cent.

"	"	"	2d	"	"	5	"	"	2	"	40	"
"	"	"	3d	"	"	4	"	"	1	"	25	"

The two surviving women were free from recurrence at their last examination, two and a half and three years after operation. The sarcoma in these cases was in the form of polyp in the uterus as large as a cherry and a hen's egg respectively.

The results which have been attained in the Berlin Klinik for Women in the treatment of malignant uterine diseases, are to be considered as entirely satisfactory in comparison with the results of surgical operations for cancer of other organs. To be sure the number of permanent cures is exceedingly small in comparison with

the enormous number of women who suffer from cancer of the uterus. An improvement of this sad condition of things is to be hoped for from an earlier recognition of the disease, and in furtherance of this object the women themselves must give assistance and so must the physicians.

If malignant disease of the uterus is recognized *early*, vaginal total extirpation and supravaginal amputation will remain the only remedial measures until a better misunderstanding of the ætiology of cancer leads the way to further progress in the art of curing it.

The American Electro-Therapeutic Association.

A VERY full programme is announced for the coming meeting of the American Electro-Therapeutic Association which is to be held in New York, at the Academy of Medicine, 17 West Forty-third Street, October 4, 5 and 6.

There will be two interesting dis-

cussions, one upon "The Relative Fœticial Value of the Different Currents and their Application to Ectopic Gestation," to be discussed by many prominent gynæcologists and electricians, and another upon "Cataphoresis and its Practical Application as a Therapeutic Measure."

Papers are announced by Drs. Geo. J. Engleman, Wellington Adams and Geo. F. Hulbert, of St. Louis; Wm. F. Hutchinson, of Providence, R. I.; Franklin H. Martin, of Chicago, Ill.; A. Laphorn Smith, of Montreal, Canada; R. J. Nunn, of Savannah, Ga.; Thomas W. Poole, of Lindsay, Ontario; C. Eugene Riggs, of St. Paul; W. J. Herdman, of Ann Arbor, Mich.; D. C. Campbell, of Detroit, Mich.; G. Betton Massey, of Philadelphia; Henry D. Fry, of Washington, D. C.; H. E. Hayd, of Buffalo, N. Y.; J. H. Kellogg, of Battle Creek, Mich.; C. G. Cannaday, of Roanoke, Va.; Ernest Wende, of Buffalo, N. Y.; and Wm. J. Morton, Augustin H.

Goelet, A. D. Rockwell, Landon Carter Gray, Robert Newman, Ephraim Cutter, Frederick Peterson, G. M. Hammond, F. Van Raitz, of N. Y., and many others. Dr. J. Mount Bleyer will give an instructive lecture with demonstrations, entitled "The Phonograph and Microphonograph, the Principles underlying them and their Uses in the Sciences."

In connection with the meeting there will be an exhibition of modern medical electric apparatus, all the prominent manufacturers being represented.

The social part of the programme includes many pleasant surprises.

Official Notice.

THE American Association of Obstetricians and Gynæcologists will hold its fifth annual meeting at the Lindell Hotel, St. Louis, Tuesday, Wednesday and Thursday, September 20, 21 and 22, 1892.

The President, Dr. A. Vander Veer, of Albany, N. Y., wishes it understood that all members of the medical profession interested in the subjects discussed, or who are friends of the Association even though not especi-

ally interested in its branch of work, are most cordially invited to attend the several sessions.

The Lindell Hotel will be the headquarters of the Association during the meeting, and has a convention hall which will provide ample accommodations for the sessions.

By order of the Executive Council.

WILLIAM WARREN POTTER,

Secretary.

Dated Buffalo, N. Y., Aug. 8, 1892.

ABSTRACTS FROM CURRENT LITERATURE.

BY S. P. COTTRELL, M.D.

Provisional Anus.

This operation seems to be taking a place as one of the ordinary means of treatment. Dr. THEIRS (*Medical Record*) reports a case where, for the

cure of syphilitic ulcer, rest was given and the artificial opening later closed.

Total Extirpation of Uterus.

OLHAUSEN (*Congress of German Surgeons*) gave a report on this subject and advised, from experience, the more frequent performance of this operation, much better results being obtained.

Vaginismus.

DR. ALBERT KROG reports a condition of this nature (*Med. Record*), in a newly married woman, with whom coition became impossible soon after marriage, and even digital examination brought on spasm. Under æther the hymen was found ruptured into four parts. On the apex of each was situated a small hyperbrophic mass, extremely sensitive; excision of entire hymen, with dressing of iodoform ointment resulted in a cure.

Cimicifuga in Uterine Disorders.

DR. BOARDMAN REED (*The American Therapist*) gives the treatment of cimicifuga a high place in the medicinal treatment of uterine disorders. In doses of five drops every three or four hours it has proved helpful in scanty flow. In case it causes headache larger interval of administration are indicated. On the other hand small doses, one quarter to half a drop, will have good effect in headache resulting from mental fatigue or due to congestion of pelvic viscera. Two-drop doses of cimicifuga and gelsemium in equal parts act well in re-establishing the flow.

Diseased Uterine Appendages as Factors in Muscular and Joint Affections.

In noting the sympathetic relations existing between the uterine adnexa and remote organs, Dr. M. B. Ward (*Journal Am. Med. Assoc.*), gives his very interesting cases of joint affection which were cured by attention to the organs in the pelvis. The first case was of a woman of 28, in whom, upon vaginal examination, was found a fixed uterus and pelvis filled with soft mass. Patient extremely emaciated, and left leg flexed and hip joint tender. In the main presenting every symptom of hip joint disease. Removal of uterine appendages and breaking up of adhesions resulted in a complete cure of joint trouble as well as in improved general health. The second case gave history of rheumatism, as well as partial paralysis of muscles of back. In fact quite bed-ridden. Vaginal examination gave evidences of ovarian disease and operation, removal of left ovary, found bound down in pelvic fascia, gave a complete cure. In regard to an explanation for this relation Dr. Ward gives no theories. Another case reported was of too recent occurrence to give a decided opinion as to results.

Female Voice in Sexual Disease.

DR. C. HENRI LEONARD, in a paper read at the sixty-second annual meeting of the American Medical Association (*Jour. Am. Med. Assoc.*) discusses this question and cites numerous cases where uterine and ovarian disease has resulted in an impairment of the voice. In one case, from a high *mezzo* the range was reduced to a *contralto*, and in other cases the masculine tones were creeping in. At the time of menstruation it is claimed to be a common occurrence for singers to find changes in the purity of tone or range of voice. The reason for this is found in the intimate connection of the nerves supplying the vocal organs (spinal accessory) and the uterus through the medium

of the solar plexus. Taking into consideration the fact that from the lowest to the highest note the vocal cords vibrate from 572 to 1,606 times a second in soprano singers, and there being about 100 muscles which must be brought into co-ordination to produce perfect phonation, it is not surprising that some slight reflex trouble will have the result of causing changes in the voice.

In confirmation of his ideas Dr. Leonard cites the case of a patient of Dr. Severs of Fort Wayne, who, from reflex influences, had not spoken above a whisper for two years. In this case cure resulted from treatment of rectal trouble.

Ovariectomy in the Presence of Pregnancy.

DR. WILLIAM H. MYERS (*Journal American Medical Association*), says that it is not safe to permit an ovarian cyst to progress in the presence of pregnancy, and gives the cases collected by Playfair, where out of thirteen cases left to nature six died. Wells reports three cases where death followed the rupture in the sixth or seventh month. Barnes one case. The method of relief then to be followed is one of the four given below:

- (1) Puncture of cyst.
- (2) Induction of premature labor.
- (3) Porro's operation.
- (4) Ovariectomy.

The question of puncture has such heavy surgical experience against it that it should not be attempted save where there is assurance of single cyst, and even then it is not commended. Of the second, induction of

premature labor according to the prevailing idea, places the mother's life in danger and implies the sacrifice of the child.

Ovariectomy is the best plan advised. Out of thirty-six (36) cases operated on by Olshausen, Schröder, Wells and Tait, there was only one death. The operation should be done *as soon* as the diagnosis is made, leaving the uterus in as good position as possible and allowing the pregnancy to proceed to full term. Adhesions necessarily complicate the operation. Barlock reports from the cases of Wells, with adhesions 684, with 190 deaths. No adhesions, 461 with 71 deaths. Regarding the effect on the existing pregnancy, the earlier the operation the better the results as concerns the child.

Vaginal Hysterectomy; Its Limitations in Malignant Disease.

J. E. JANVRIN (*Medical Record*), says that for ten years past up to within three years, he has believed in and followed the practice as advanced by Martin: that operation was justifiable where the disease was confined to the uterus itself. In the past three years his ideas have, to a degree, changed. In this connection he gives the usual course as pursued by the disease:

(1) Epithelioma developing in the cervix.

(2) Epithelioma extending up and into cervical canal.

(3) Epithelioma extending up and into uterine body.

(4) Epithelioma extending to the tissues surrounding the cervix.

(5) Epithelioma extending downward upon the vaginal mucus membrane.

(6) Epithelioma extending downward upon and through the vaginal wall.

(7) Epithelioma and carcinoma developing primarily upon the endometrium.

(8) Its extension to the body of the uterus.

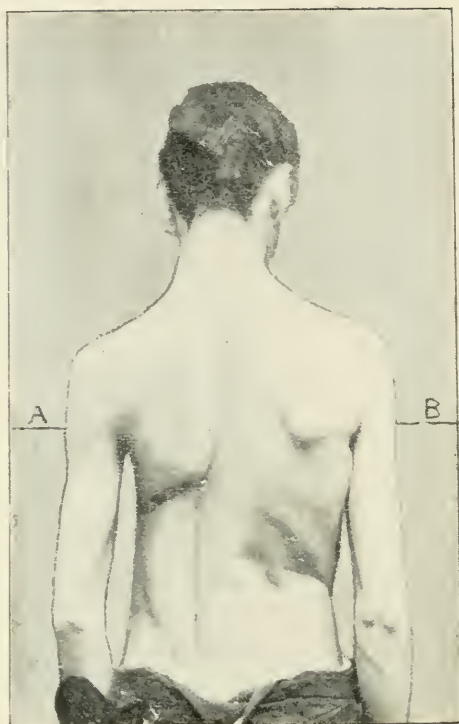
(9) Its extension to the uterine adnexa.

In this paper no attempt was made to consider the question of high computations, etc., the author confining himself to that of vaginal hysterectomy. In class five (5), where there seems to be an involvement of the vaginal wall, an incision is made to include healthy tissue around the diseased wall, dissecting then up to the cervix and proceeding as in the regu-

lar operation. Regarding the immobility of the uterus as a contraindication for operating, presupposing, as is taught, that this is due to extension of the malignant process to the uterine adnexa, Dr. Janvrin contends it is often purely inflammatory, and also finds a decided difference in the feel between malignant infiltration and inflammatory deposits, the tissues being hard and tough, while those of lymph deposit is elastic; and again, as a diagnostic point, say where the cancerous disease has involved the ligaments, there will exist the cancerous look on the face, and the general condition of the patient will be such as to preclude the operation. Where, in epithelioma of the cervix, the destructive process has already begun to involve the mucus covering of the vagina, a thorough curetting will be of service in preparing the case for the final operation. In regard to size of uterus to which the operation is applicable, there is nothing positive. One case, given by Dr. Janvrin, was where the vagina measured four and a half inches in depth, and one case where the labia was cut to admit of extraction, Dr. Janvrin heartily recommends the operation even where the disease has involved the vaginal wall, but not extended to subjacent structures, and also in cases involving the ligaments where the deposit can be said to be inflammatory, not malignant, the tying-off being done with ligatures, rarely calling clamps into use.

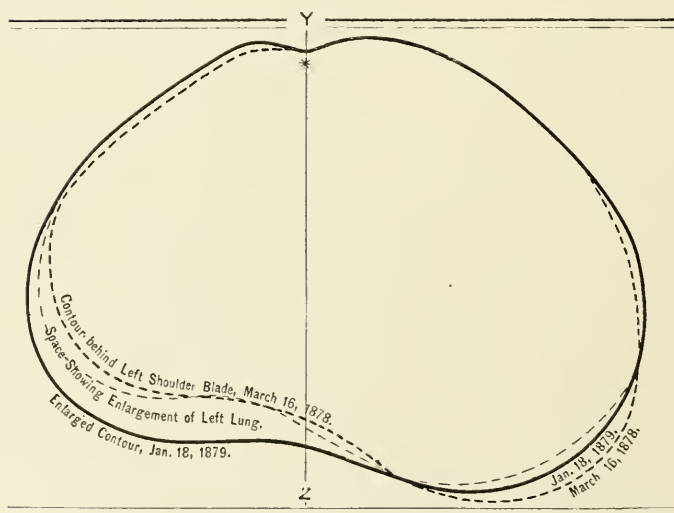
PLATE II.

Fig. 1.



F. G. R. , before commencing the health lift.
Taken March 16, 1878.

Fig. 2.



ANNALS

—OF—

GYNÆCOLOGY AND PÆDIATRY.

DEPARTMENT OF PÆDIATRY.

CONDUCTED BY RICHARD C. NORRIS, M.D.

ORIGINAL COMMUNICATIONS.

Atrophy of the Left Lung with Abnormal Enlargement of the Right. Approach to Normal Symmetry under the Butler System of Passive Exercise.

BY L. J. CHERRINGTON, M.D.,

SALEM, MASS.

IN a previous article in this magazine (September, 1891), I presented a case of Unilateral Flexure of the Spinal Column, illustrated with two plates, one showing the anatomical state, and the other the subsequent changes toward anatomical symmetry, made under progressive, passive tonic exercise by the Butler System of Physical Training. The etiology of Spinal curvature and the principles of its reduction were mainly set forth in that article, a mere mention being made of the fact that, as a concomitant of the reduction of the flexure, the girth of the chest was considerably enlarged, a matter of two inches. An increase in capacity and mobility of the chest-walls, and invigoration

of its principal organs, the lungs, always accompanies a tonic improvement of the spinal and costal muscles, as a result of progressive physical training with the Butler System. Spinal curvatures, involving the dorsal vertebræ, are usually complicated with abnormality in form and function of the respiratory organs.

The present article relates to another case of unilateral flexure of the spinal column, accompanied by excessive deformity of the chest, with enervation and atrophy of the left lung. The subject-matter of this writing will be devoted to a consideration of the causes underlying the pulmonary defects and deformities, the steps toward the re-establishment of symme-

try and function, and the therapeutic principles pertaining thereto. That the mind of the lung-reader, under whose eye this may come, can readily understand the subject, technical terms will be avoided, as far as practical, in its presentation.

The case in illustration is not of recent date, but came under my treatment in 1878. The photograph of the nude back, see Plate II, Fig. 1, was taken March 16 of that year. The deformity of the chest was so marked, as evinced by the greater distance from the spinal column to the right

hollowed out deep enough to loosely inclose one, the anterior and the other the posterior, contour of the body. The outer part of the edges, so cut, meeting together just under the arm-pits. (See Fig. 3.) The hollows in the pieces were cut out sufficiently to allow the chest-walls free expansion under inhalation, without touching the inner border of the inclosure.

In order to ascertain the *exact* contour of the expanded chest, numerous small, movable pieces were set radially around the circumference of the irregular, oval-shaped, inclosure, said

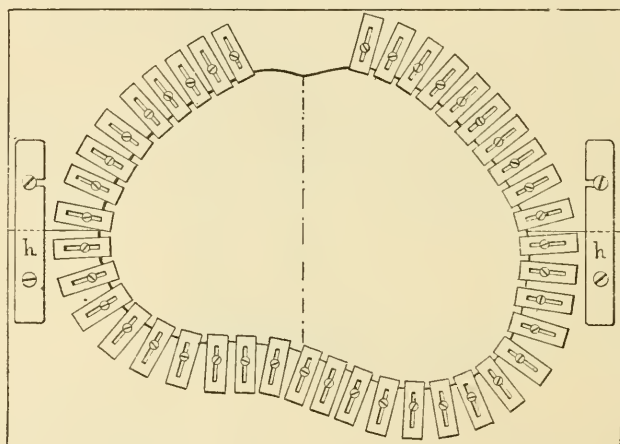


FIG. 3.

side, in comparison with the distance to the left, that, anticipating an improvement in the form and mobility of the left side, I decided to obtain the exact shape of a horizontal section of the chest, such as would show if it were cut through at the point of its greatest apparent deformity, which seemed to be about on a line with the nipples. The shape was taken the same day the body was photographed, and was done with an instrument designed for the purpose. It consisted of two thin pieces of wood, each sufficiently wide to allow one edge to be

pieces being held in place by a screw passing through a slot in each one, the screws being turned down so as to just allow the pieces to move radially all around the body, by the outward pressure of the expanding chest. The body being inclosed in the instrument, the edges of each body-piece coming together under the arms and being secured by the hooks h h, (Fig. 3), the numerous little pieces were pushed against the body, while the lungs were exhaled and the chest thereby drawn inward. On inflating the lungs the movable pieces would slide radially,

outward, being pushed by the expanding chest. The two body pieces being now unhooked and removed separately from the body, and then brought together again apart from the body, were laid down upon a blank sheet of paper, each of the little movable pieces being tightened by turning in the screw, and a line scribed around the inside of the oval, formed by the inward-projecting ends of the numerous little pieces. In this way the exact contour of the body on line A B, Plate II., Fig. 1, was obtained, and the same instrument served, by the same process, to ascertain subsequent changes in form; observation, from time to time being readily made, by laying the instrument over the pencilings of the previously obtained diagram. Of the three forms shown in Plate II, Fig. 2, the first one, taken March 16, 1878, is that depicted by the broken heavy lines joining to and continuous with the full heavy line, and shows the maximum deformity.

The form shown by the broken *light* lines joining to and continuous with the full heavy line, shows the change wrought in about seven months, the shape being taken October 7. The full, continuous, heavy line shows the improved form at the end of ten months, having been taken January 18, 1879. The maximum deformity, it will be noticed, shows a very great difference between the sectional area of chest-capacity on each side of the median line YZ, drawn through the *, which indicates the position of the breast bone. This difference, in the two sides of the chest, also gives an idea of the comparative difference in sectional area of the right and left lungs, respectively. Unfortunately, I did not obtain a photograph of the

posterior view of the improved body, the patient having been called suddenly away from my city before it could be taken. Therefore, the only evidence I can adduce regarding the reduction of the spinal curvature (not germane to this special subject, however), is what would naturally be presumed from the progress toward symmetry of form of the chest. The photographic plates accompanying my article in the *ANNALS* of September 1891, shows the possibilities in spinal improvement under like treatment.

The origin of the spinal flexure and pulmonary atrophy was ascribed to a complication of typhoid-fever and pneumonia with which the patient suffered five years previous, the anatomical changes progressing gradually from that time till the patient came to me, he being at the time of his coming nineteen years of age. His weight was 124½ pounds, and his height five feet seven and one-half inches.

Going back to a period antedating the typhoid-fever, even previous to the existence of the typhoid virus, before the expellant fever appeared, it may, reasonably, be inferred that a predisposition to weakness, or weakness in fact, of the left lung then existed, otherwise, when the pneumonia complication arose, the right pulmonary region would have been affected instead of the left, or both affected. By a law of life, a failure or impairment of function of one organ, of which there are duplicates, causes the stronger to increase in function and development. This result obtains, whether the function of the organ be directed by the will or incited reflexly or involuntarily. To illustrate: Under voluntary control and from habit, the right arm

and hand, commonly prevailing and predominating over the left, become stronger, more developed and facile. If the right ear, be merely locally affected, so that the hearing thereof be impaired, by involuntary or reflex influence, the aural function of the other side will become stronger and more sensitive. Likewise, enervation of the respiratory muscles of the left side, involving the left lung, and restraining pneumatic action thereof, would render the left lung more susceptible to congestion than the right, and, during such congestion, and according to its extent, the work of eliminating carbonic acid from the system would be forced upon the right lung, in defence of living existence. The right lung would thus be compelled to perform, not only its own normal amount of aerating work, but, in addition thereto, the vicarious burden thrust upon it by the disabled lung.

Presupposing that the tendency to left lateral debility did exist, and considering the fact that an excess of work was forced upon the right side, it may be reasonably presumed that the disposition of that side, to superior vigor of action was further increased by the impulse given under the exigency of disease. Under prolonged illness the impetus thus given might be continued, even after the exigency had passed, and, still continuing through the period of convalescence, and subsequent thereto, as the need of systemic oxygenation became more urgent, by the activity of the daily vocation, the right lung, continuing its vicarious work, would further develop in size, and the capacity and mobility of the chest, on the predominant side, would be correspondingly increased.

This, I believe to be good etiological reasoning regarding the case, at the time it came under my treatment. The progress made toward normal conditions of form and function of the impaired lung, and the methods employed in attaining that progress, seems to justify such reasoning.

In my previous article on spinal flexure, I set forth, concisely, the principles and application of the Butler system of passive exercise, and therein showed its distinctive physiological action. I cannot make this paper complete, in itself, without repeating, somewhat, the substance of that previous writing. As the principles are little known and understood by the medical profession, owing to the fact that they have never before been published in a medical journal, excepting my previous article referred to, a repetition of them here may not be superfluous.

(1) The underlying principle of all development by exercise, is the physiological law, viz., that a natural demand, made upon any bodily organ for functional action, will enhance its functional tone, and the more vigorous the demand (provided it be within the safe limit of the individual power) the greater will be the active response and the stronger the organ will become. The fundamental *mechanical* law governing this principle, is the axiom, that a power in excess of any load-resistance, is always required to raise or move the load; which means that exactly ten pounds of upward pressure will not raise ten pounds of weight. It will just balance it. This law, applied to muscular action, requires that there must be a response in nervous potentiality, in excess of the burden imposed, in order to carry the burden. I take this proposition

verbatim, from my previous writing. It will warrant repetition :

Moreover, this law applies, not only to a mere mechanical or muscular action. It applies alike to all action, whether it be of the stomach, in its organic act of grasping, moving and digesting its load of pabulum, or of the biceps in the purely mechanical act of raising a dumb-bell. A weak stomach will never gain desired organic strength by frequent feeding, with a meagre quantity of food. It would lack the stimulus of *effort* necessary to the development of functional tone. Besides, it would not be allowed the requisite time for rest. Likewise the heart, making frequent pulsations, will not be as vigorous as if the pulsations were less frequent, and full and strong, because the impulse, exerted on the blood, lacks the element of concentrated *effort* ; presuming, of course, that no organic disease exists which would induce abnormal effort and hypertrophy of the organ. So is it with respiration. A habit of short, frequent breathing will not invigorate weak lungs and respiratory machinery. The essential element of prolonged vigorous *effort* must be present or invoked, if the lungs are to increase in vigor or capacity. There are too many reactions per minute in rapid pulsations and respirations, and the heart, under such action will the sooner beat out, and the lungs the sooner become enervated. The long-stroke Corliss steam-engine will outwork and outwear its brother machine with shorter stroke of piston and more strokes per minute, though taking in and exhausting the same quantity of steam.

(2) The application of the principles laid down in the first proposition, in the development of *general health*,

takes a wider scope and may be thus stated : (a) *Co-operative* and harmonious functional action of *all* bodily organs is requisite to *general health* ; (b) *Co-operative* and harmonious functional action of all organs, under the stimulus of co-operative *effort*, through urgent demand, and gradually-increasing burden imposed, increases the co-operative strength and raises the status or standard of health.

The healthful status can exist, therefore, under varying dynamic conditions, from equalization or harmonious action on a low plane, to equalization on a high plane of *general* organic power. When the system emerges from the perils of a constitutional illness, from the saving hands of Mother Nature, the organs are, presumably, harmoniously related to each other ; but the equalization or harmony is on a very low plane. During the period of convalescence the equalization is progressing toward a higher plane, and will continue to progress until the maximum of the individual capacity is reached, all things being favorable thereto. The self-balancing, equalizing faculty of the human system is so persistent that it will compel and maintain the harmonious, healthful status on the plane indicated by the strength of the constitutionally weakest organ or group of organs ; so that the remainder of the organs would be forced to yield their wonted strength to the comparative level of the weakest. Were this not the law, all persons must need be equally strong, on the maximum plane of power, or die of unequalized conditions in the effort of the body to attain that degree of power. This tendency to force the issue of equalization, even to the restraint of greater func-

tional power of organs that would otherwise be stronger, does not always act with sufficient restraint to prevent general increase of organic power, or general bodily improvement. (See subdivision *b* of proposition 2.) The *vis medicatrix nature*, the self-improving faculty dominates, as well, and opposes *its* power against the tendency of the system to preserve its even tenor on a low plane.

The office of the lungs being the introduction of atmospheric oxygen into the system, in exchange for the carbonic acid generated in the blood, in bodily activity, in which exchange and, in part, union of chemical elements, combustion at a low temperature ensues in the "fire-box" of the system, the lungs, and the vital heat thus maintained and regulated, it follows, physiologically, that by propelling the blood to the lungs in greater volume, at each respiration, they would be compelled to more fulsome expansion and consequent invigoration. This would obtain in conformity with the principles set forth in the first proposition.

In the subject case, the right lung, in response to the *urgent demand* made upon the respiratory organs for more pulmonary oxygenizing surface, to meet the requirements of active life, after convalescence, actually increased its air-cell wall-area, in order that it might perform not only its own normal amount of work, which it would do with the left lung equally co-operating, but likewise the work its debilitated partner failed to do. Thus it happened that the left lung continued in atony and atrophied, while the right grew stronger and more capacious. In order to incite greater activity of the atrophied lung

it was necessary to create a momentary, concentrated demand by the general system for a still greater supply of oxygen, and, at the same time, to compel the left lung to respond more willingly to that demand. The laws by which the weak lung could be incited to action and invigorated are the same that would apply in the development of strength and structure of a muscle, or set of muscles, whose movement is controlled solely by volition. The muscles belonging to the respiratory system are, however, of the class denominated semi-voluntary, *i.e.*, they act without volition principally, yet when the mind would direct their movement it can do so, but it could not direct the movement of the respiratory organs of *one* side predominatingly over the other. A certain kind of physical exercise, administered in a certain way, would and did produce this desired result, as evinced by the diagrams, (Plate, II).

An experience of twenty-six years in the domain of physical culture, with a knowledge of the principles and effects of all forms of exercise aimed at physical improvement and health culture, has convinced me that the slow lifting of a weight, graduated to the strength of the individual, and lifted in such a manner that the general muscular system, internally as well as externally, is brought into complete, co-operative and vigorous contraction, and alternating the lift-act with brief periods of perfect relaxation and repose, is the best form of exercise that can be practised, whether the person be young or aged, feeble or strong, male or female. The mechanical engineer, in calculating the potential possibilities of a steam-engine, ascertains its capabilities in

"foot pounds"—*i. e.*, the number of pounds the engine will raise a distance of one foot in one minute; a nominal "horse-power" being that power which, if concentrated in a continued movement, will lift 33,000 pounds one foot in one minute. The omission of either one of the three factors of weight, distance or time, in making the calculation, would render defective the mathematical result. "What is gained in speed is lost in power" is an axiom of mechanics having its basis in this formula of mathematics. The Butler system of passive exercise, in its principles and application, conforms to these mechanical laws. It consists in lifting a weight from a spring-support, in such a manner that the entire muscular system, as nearly as can be perceived, is brought into a co-operative, harmonious and vigorous tonic contraction, the muscles of the lower limbs, only, being active, as a requisite to the lift-act. The manner of lifting, in order that the exercise, as far as possible, shall be distributed throughout the entire body, is by lowering the erect trunk by merely bending the lower limbs, in order to reach down to grasp the weight by its appendages, and then, by straightening the limbs, to carry upward the still erect body and, with it, the engaged weight. The habitual way of lifting by bending forward the body by a movement of the spinal column at the lower part, to secure the weight, and then straightening upward and backward to an erect position while lifting the weight, it must be evident, would especially strain the muscles of the loin region and would be fraught with danger. By bending the lower limbs instead of the back, and lifting the weight from a spring-support instead

of from a hard, unyielding bearing, the liability to local strain, common in dead-weight lifting or incident to the daily vocation, is entirely avoided. In lifting a dead weight, a weight having no uplifting power within itself nor beneath it, an upward pressure, somewhat in excess of the downward resistance of the weight, must be exerted upon it before it can be raised in the least. If the dead weight be fifty pounds, every ounce of it, to the last one, must be lifted before it can be moved upward a hair's breadth. The entire weight must be lifted *instantly* or it cannot be raised any. When it is so raised, the most superficial, largest and strongest muscles are employed. They are the most superficial because most subject to the will, and they are the largest and strongest because they are of the class that predominate and take the lead in ordinary physical activity. Therefore, the lifting of a *dead* weight is, at best, a partial exercise, and if the dead weight be increased gradually and lifted, as the participating muscles gain strength, there would be an excessive development of those muscles, and, physically that would be all. This was the method of lifting practised by the celebrated Dr. Windship, by which he developed prodigious physical strength, and he proved the fallacy and injurious effects of such *special* training by his death, from apoplexy, at the age of forty-two. But let the same weight be supported by a spring, and it will be perceived that, when the weight is at rest, the spring will be compressed downward by the amount of the weight, while the spring is exerting a like upward force against the load.

Now let an attempt be made to lift

the weight, and as soon as *one ounce* of upward lifting-pull is exerted by the person, one ounce of the weight is lifted from the spring, while the latter has, by its upward push, assisted the person while he lifted even that ounce. Hence one ounce of weight has been carried upward through a certain distance, albeit a slight distance, whereas, if the weight had no spring under it, it would not have been raised in the least, though an upward pull of forty-nine pounds and fifteen ounces were exerted. There would be merely a hard, straining tug against a dead, immovable weight. Per contra, as a person continues to exert an upward-pull against a spring-supported weight, the spring continues its upward push, thus assisting the lifter, as he lifts each additional ounce, the entire distance required to entirely take the weight from the spring. At the first part of the lift-act the superficial muscles are principally aided and relieved of the great responsibility and burden they would otherwise take, and thus their excessive development in power, density and size is prevented. During the time required to relieve the spring of its entire load, all the muscles, from the most superficial to the deepest layer, have shared in the exercise, which has been a passive, tonic contraction of all the muscles, save those of the lower extremities, which have necessarily been employed in the downward lowering and upward raising of the body, as before stated. In this physical effort, so general, thorough and potent, the muscles become electrified, so to speak, with nervous potentiality. The "work" of the multitude of muscles generates carbonic acid in the blood present in the

muscles during the effort. So fulsome and potent is the muscular contraction that twice lifting is, as a rule, a sufficient number of times to make the exertion on the same weight.

It must be borne in mind that the amount of weight lifted is to be adapted to the strength of the individual, but the maximum daily lift would usually be such as to invite a vigorous effort, always within the safe limits of the strength of the weakest organs, in accordance with proposition 1st. The lift-act is immediately followed by complete muscular relaxation—a perfect reaction from the tonic contraction during the lift—by reclining supinely on a couch or reclining-chair, from five to ten minutes. During this period of relaxation, and especially immediately following the lift, the blood is propelled in great volume through the veins to the heart and lungs, and the respiratory muscles, being potently influenced by the lift-exercise, are impelled to their work of inflating the lungs to receive the blood. The arterial circulation co-operates with the venous, there is a sense of release of blood in congested parts and organs, and the person experiences a buoyant feeling throughout the entire system. The action of the heart is rendered full, strong and regular, with fewer pulsations per minute, if the rhythm were previously above normal. This is the result, and, in fact, is the evidence, of the passive character of the exercise. An active exercise would invariably accelerate the rhythm of the heart and compel it to beat more or less tumultuously.

The general effect of the exercise on the circulation, especially in the heart and lungs, having been set

forth, it now remains to be explained by what means the circulation was augmented in the left lung, and its vigor and action increased. It should be stated here that in lifting a weight by the Butler system a rod, upon the lower end of which the graduated weights are lodged, extends downward from the middle of a cross-bar which passes horizontally between the thighs, one hand, the forward one, grasping the end of the bar which extends forward of the hip, the other hand being carried backward to grasp the opposite end, behind the other hip. The person stands on a kind of table, having a spring-supported upper platform, through the centre of which table and platform the vertical rod, at the bottom end of which are movable weights, hangs like a pendulum. The rod passes through a volute spiral spring, and a collar at about the middle of the rod rests upon the spring, thus supporting the weight also upon the spring. The described position of the hands causes the body to turn very slightly in a spinal twist, carrying it out of symmetry in lifting, but this very unsymmetry tends to influence a predominance of action, unbalancingly, on one side of the chest, when such predominance is desired. In the ordinary administering of the exercise, for general bodily improvement, an alternation of this unsymmetrical position, reversingly, counteracts and tendency to one-sidedness of development. But when one-sidedness already exists, the unsymmetry can be counteracted and overcome by taking such an unsymmetrical position as will favor the restoration of symmetry.

This was done in the case under treatment. The left side being debili-

tated and deficient in functional action, by giving a lift predominating with the left hand, arm and shoulder carried backward, to grasp the backward end of the lifting-bar, the anterior wall of the left side was forced forward and expanded somewhat (see evidence in diagram, Plate I, Fig. 2), while the left shoulder-blade was, desirably, forced backward to nearer its normal position.

The *right* hand, arm and shoulder were carried forward in order to grasp the forward end of the lifting bar, which position exercised a negative influence on the right side of the chest by bringing the excessively protruding right shoulder-blade forward and at the same time pressing the upper arm against the frontal portion of the right side. This position of the body in lifting, whereby the left side was aided in its expansion, was supplemented by a still further favoring treatment during the period of reclining and relaxation, following and between the several lifts administered, four pairs of lifts being the usual number given each day. This treatment, during the reclining, consisted of the very simple but effective scheme of placing a cushion under the projecting contour of the right shoulder-blade, thus pressing it into its normal place and restraining, to a certain degree, the excessive respiratory action of the right side and so compelling the left side to resume its neglected functions.

So effective, in the desired directions, were these combined measures that the patient was, himself, made conscious of the improvement, and was led to ask me a somewhat curious question. "Doctor," said he, "does more air go into the left lung than

into the right?" To which I replied, "No, not usually, and in your case not so much goes into the left. Why do you ask the question?" "Because," said he, "it seems as if I could *feel* more air going into the left than the right." The simple truth was, that there was more mobility of the left side and more action of the left lung, and consequently more air was going into it than there had been for a long time and he was conscious of it, as he would not have been had the impaired functions not been aroused.

It is a custom to make and preserve a daily record of every weight lifted by all patients. By reference to that record I find that his first lift, March 12, 1878, was 150 pounds. The daily lift was gradually increased, and at the end of one month, April 12, he lifted 195 pounds. During the next month the gain was not so great, and his lift, May 12, was 210 pounds. Up to July 1 the highest weight lifted was 250 pounds. The average lift, from July 1, 1878, to January 1, 1879, was 216 pounds, the highest being not above 250, and from January 1 to March 1 the highest lift was 270 pounds, the maximum limit reached. By looking at the diagram it will be seen that the greatest enlargement in capacity of the left side was made during the last three months, that being the time during which the least *increase* was made in the weight-lift. This illustrates a peculiar feature in the therapeutic action of the exercise, viz., that the greatest vital improvement, under the treatment, is made during a non-advance or a subsidence in the amount of weight lifted, the maximum or near the maximum weight lift having been reached. There is a physiological reason for

this, which it may not be inopportune to briefly explain.

The most important organs of the body are those of the vital system, which perform their functions without volition. The muscles actuated in lifting a weight, or in fact in any other ordinary labor, are subject to the control of the will, and occupy a less important and less vital place in the animal economy. Therefore, the training of the latter, only, to a high degree of power, without correspondingly invigorating the vital system of organs, cultivates a *physical habit* to the disparity of the *vital*, and the more superficial the form of exercise indulged in, the more the voluntary system is developed and the greater will be the said disparity. It becomes, in such case, a conflict between the will of the individual and the vitality. Owing to the spring-action in weight-lifting the development of enormous physical or voluntary muscular power is rendered impossible, under present human conditions, because, when the weight-lifting ability has reached a certain point, varying in different persons according to the degree of natural strength and whether there is a tendency to predominance of either the vital or physical habit, the improvement in vigor, function and development seems to be directed toward the vital rather than toward the physical system. At the present time the prevailing belief is that great physical development is conducive to and an evidence of health. It is a popular mistake. Only is physical exercise an agent for health when the vital improvement is co-equal with the physical.

In contemplating the principles

and therapeutic possibilities of Dr. Butler's system of passive exercise, and knowing its accomplished work in health-culture, and then realize how little those principles are known to the medical profession, I often experience a feeling of deep regret that the discoverer thereof should be possessed of that consummate modesty which has so deterred him from extending a knowledge of his system into wider fields outside the pale of his own immediate practice. The physiological effect of spring-action intervention and assistance, in weight-lifting exercise, which is the essential element in the Butler system, and without which the appellation "health-lift" is, considerably, a misnomer, are scarcely known outside the coterie of patients who have, during the past twenty-eight years, attended the half-dozen institutions in the United States where the exercise is administered, of which Dr. Butler's, in Boston, is the parent. True genius is often hampered by an excess of modesty in putting forth its claims to public recognition; but here is an instance of modesty bordering on eccentricity, and so unlike his early contemporaries, Drs. Windship and Dio Lewis, and so out of step with others of the present time who are interested in advancing the cause of physical culture, that he not only does not appear outside the confines of his own professional apartments, to promulgate a knowledge of the scientific discoveries he has made, but is so averse to the use of printers' ink that he will not even allow his name to be printed on a professional card.

It is true, that as far back as 1868, some four years subsequent to his

discovery, he did publish an 8vo. work of a hundred pages on physical culture, in which the principle of spring-assistance in weight-lifting was briefly set forth; but this was before its curative value had been so fully demonstrated as it has been by subsequent experience. The small edition of that work was early exhausted by generous donations of the author, and is now, mainly, reposing on the shelves of a few private and fewer public libraries in the neighborhood of Boston.

This manifest indisposition to issue propaganda is not born of mercenary motives, in a desire to confine his practice to himself, for he is as unselfish and philanthropic as he is modest and retiring; and while it is his belief—shared also by many others of his disciples—that his method of exercise should be adopted in every school and college, and administered as a therapeutic agent in every nerve asylum and hospital for the insane, he makes no personal efforts in that direction. On my expostulating with him, on a certain occasion, for his inactivity and indisposition to advance the cause of his discoveries, he expressed his opinion that "further suffering from old, imperfect systems of exercise was necessary, before their abandonment for new and better systems." Which means, in substance, that adverse experience in what is imperfect and erroneous is the best argument against it.

But somebody ought to or must advocate the cause of progressive things, and if, with a substitute's pen an opening can be cut through a phalanx of popular false ideas regarding physical exercise, this writing may perhaps contribute to that end. I feel I can do this within the code of professional

ethics, for there is no patent proprietary on the apparatus, and principles, when once discovered, are the common property of mankind. I have no hesitation in declaring it as my opinion and belief that a department of exercise-cure for chronic ailments, embodying the Butler system, with a schooled and competent director thereof, is as necessary an adjunct to the office of the general practitioner, as a stable with its appurtenances and a hostler. The tendency, however, at present, is toward the practice of special departments of medicine, the study of the whole of the human system and its *expert* treatment in disease, covering too much of scientific research for all physicians to become experts in all departments. A competent author, Wm. H. Burt, M.D., of Chicago, in a work entitled "Therapeutics of Tuberculosis" (Pulmonary Consumption),¹ thus writes: "The use of the Health Lift is without doubt the most important remedial agent that has ever been devised by man for the cure of a general atonic condition of the body. It is the most thorough, the most expeditious, the safest and easiest method of developing the whole muscular system that can be thought of, for it exercises almost all the muscles of the body simultaneously, at a minimum expense of mental effort. The chief recommendation of this means is, that the apparatus is so simple that the most fragile woman, if she can but stand up, can use it with perfect safety. . . .

Consumptives, who have been treated by the Health Lift, have uniformly found their health and strength daily improved, cough and expectoration diminished, appetite increased, pulse slower and stronger, capacity of the lungs greater, the mobility of the chest frequently doubled, the circumference greatly enlarged, an increase of weight, and all the appearances of returning health." This is pretty strong testimony, and it comes from a disinterested source.

The late Nathan Allen, M.D., LL.D., of Lowell, Mass., whose writings on hygiene and heredity are world-wide authority, and who while a trustee of Amherst College in 1861, was the first to dignify physical culture, by having it made a part of the college curriculum; was cognizant of the improvement wrought in the case I have made the subject of this article, saw the patient at sundry times while under treatment, and watched the case with a great deal of interest. He suggested to me, then that it ought to be reported in medical literature, but I neglected to do it. It now emerges from the archives of my recorded work, after a lapse of fifteen years, being recalled to me by the request of the editor of the Pædiatric Department of this magazine for a contribution to its pages. I regret not having had the case under my treatment a longer time, for, while it is doubtful if the abnormal enlargement of the right side and lung could have been much reduced, it is very probable that the left side could have been still further improved.

¹ Published by Boericke & Tafel, N. Y., 1876.

CLINICAL MEMORANDUM.

Children's Hospital.

Service of Drs. SAMUEL ASHHURST and LOUIS STARR.

[Reported by ALFRED HAND, JR., Resident Physician.]

CASE I.—DEPRESSED FRACTURE OF
THE SKULL WITH SYMPTOMS.

C. S. Jr., aged 7½ years. At 6.30 P.M., May 11th, 1892, he was thrown down, striking his head against a cobble-stone. For an hour and a half he was conscious, complaining only of pain in his head. He was then seized with vomiting and convulsions, and when admitted to the hospital at 11.15 P.M. he was unconscious, and there were clonic convulsions of the entire right side of his body. At this time his axillary temperature was 105.1°. A depression in his skull was felt between the base of the left mastoid process and the parietal eminence. The scalp was shaved in this region, and a curved incision, down to the bone, was made, the flap raised, exposing a depressed, starred fracture. The fragments, which were firmly wedged in by one another, were raised by the trephine and elevator, and those which were entirely free were removed. The membranes in the exposed area were tense, but uninjured, and of the normal pearly hue, so they were not incised. The edges of the opening were then rounded off, cat-gut drainage inserted, the wound closed with silk sutures and a dry antiseptic dressing applied.

The convulsions, which had been persistent during the operation, lessened after the boy had been carried to the ward, and periods of quiet intervened. The last convulsion occurred two and one-half hours after the operation. With the convulsions the fever, also, subsided. For six days the temperature kept close to 100°, but after that was practically normal, about 99° line.

The treatment was as follows: Every hour for six hours an enema of potas. brom., gr. v, and chloral gr. ij; every hour for forty-eight hours, calomel, gr. one-sixteenth; Dover's powder, gr. j. After the second day, calomel, gr. one-fifth, every three hours, was administered for four days, when further medication was deemed unnecessary. For thirty-six hours after admission the stomach retained very little food.

The primary dressing was not disturbed until the eighth day, when the drainage strands were removed. At the second re-dressing, eight days later, the wound was entirely healed.

The boy was discharged one month after admission, with pulsation visible in the area from which bone was removed, but, so far, no untoward symptom has arisen since the establishment of convalescence.

CASE II.—GENERAL TUBERCULOSIS.

M. S., female, colored, aged 6 years. Family history, negative. She had always been well, but about three weeks before admission she became dull and languid and wasted rapidly, although walking about. With this history, and bearing in mind the predisposition of the colored race to tuberculosis, the case was entered as above, with a mental reservation in favor of typhoid fever. The physical examination and the behavior of the case for two weeks after admission to the hospital pointed strongly to the latter supposition as the correct one. There were stupor, a brown-coated tongue, a few moist râles posteriorly, tympanitic distension of the abdomen, tenderness on palpitation over the liver and spleen, gurgling in the right iliac fossa, and a moderate diarrhœa, with yellow stools. For two weeks the symptoms lessened, the stupor disappeared, nourishment was well taken, and the temperature gradually returned to the normal as at the close of typhoid fever. But just as this stage had been reached, the temperature began to oscillate in a marked way, the difference between the morn-

ing and evening temperatures at one time being six and one-half degrees. The patient lived for two weeks longer, the treatment being supporting and stimulating, consisting of as much nourishment as she would take; whiskey, a drachm every two hours; quinine, one grain every three hours; ammonium carbonate, two grains, and tincture of digitalis, one drop, every four hours. The diarrhœa was easily controlled by starch-water and laudanum injections.

At the necropsy, a tubercular pleurisy was found, and there were tubercles on the lung-surface, but the lungs themselves were only slightly involved. Almost every other organ was riddled with tubercles. The process had advanced farther in the posterior mediastinal glands than elsewhere, as they were enlarged and cheesy, and some were purulent in the centre.

The spleen was enlarged and firm, and it and the liver contained many small, caseous tubercles. The mesenteric glands were enlarged, but the intestines were normal, no ulcers, nor scars being found.

The horseshoe kidney had very few tubercles in it.

ABSTRACTS FROM CURRENT LITERATURE.

Colic.

J. B. JOHNSON, of Washington (*Southern Clinic* for July), expresses the belief that the colic of young infants is often of neuralgic origin. He does not advocate the use of stimulants or opiates, but claims to have excellent results from the use

of cinchona. In other cases the author considers as the proper remedy lactopeptine and subnitrate of bismuth; one grain each, placed dry upon the tongue every hour until the child is quiet. Treatment should be continued several days.

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